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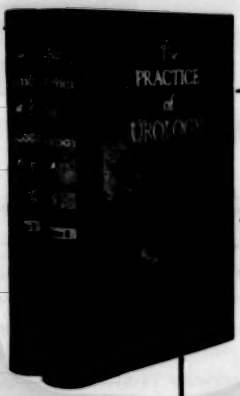

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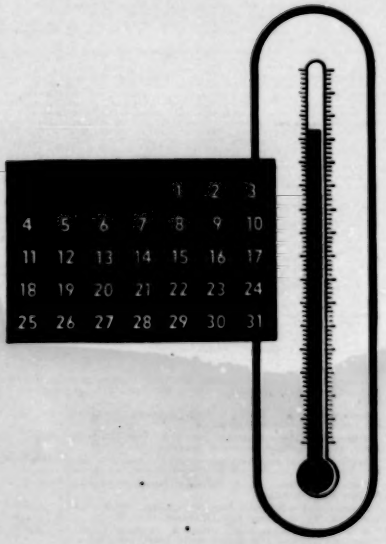

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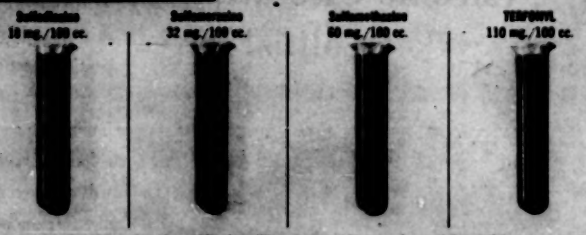

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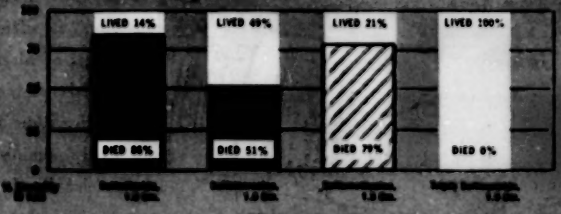

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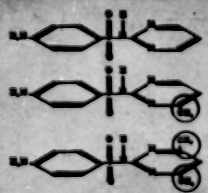

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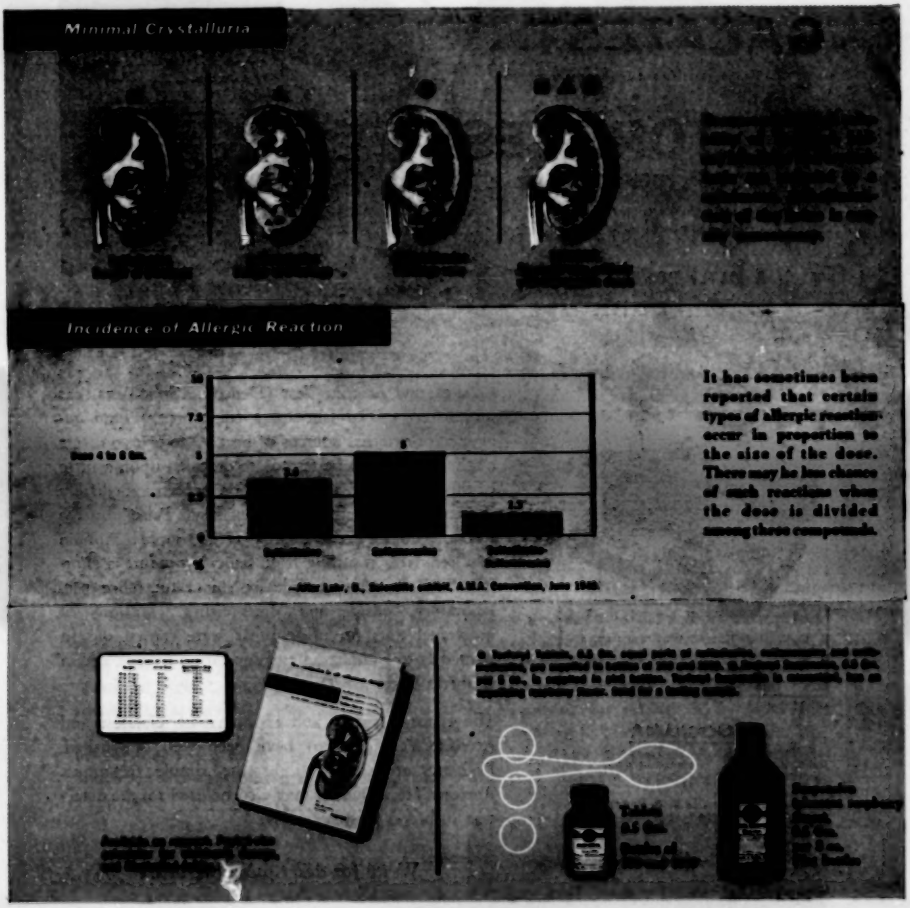

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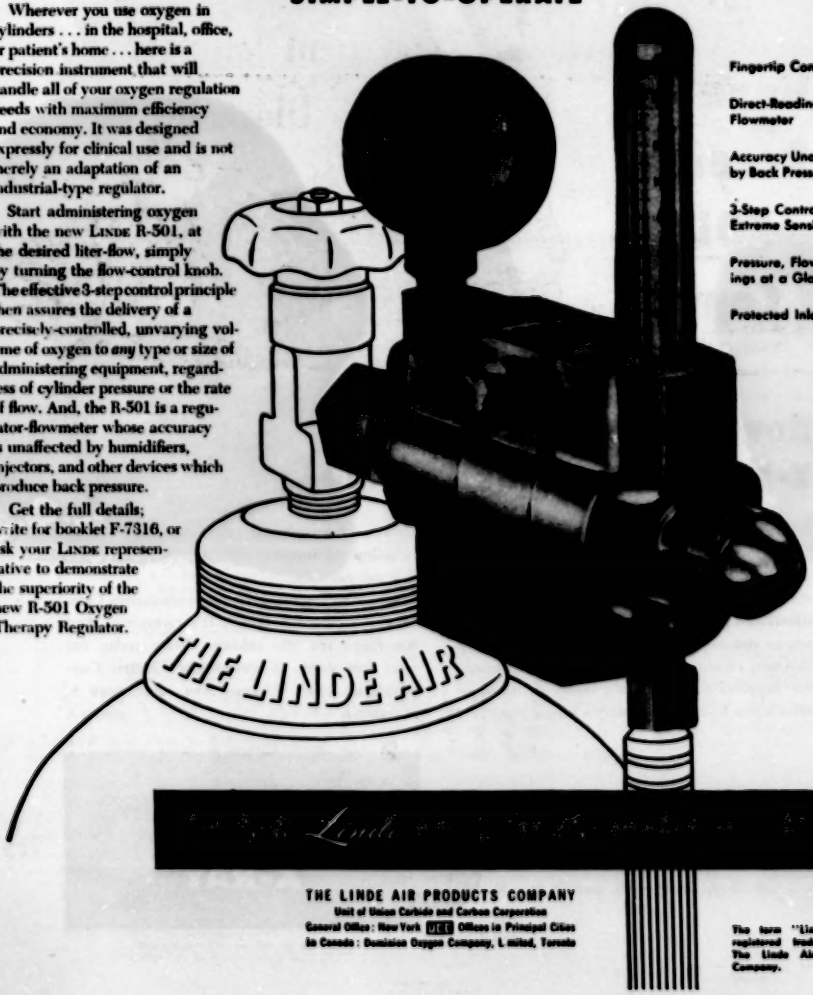

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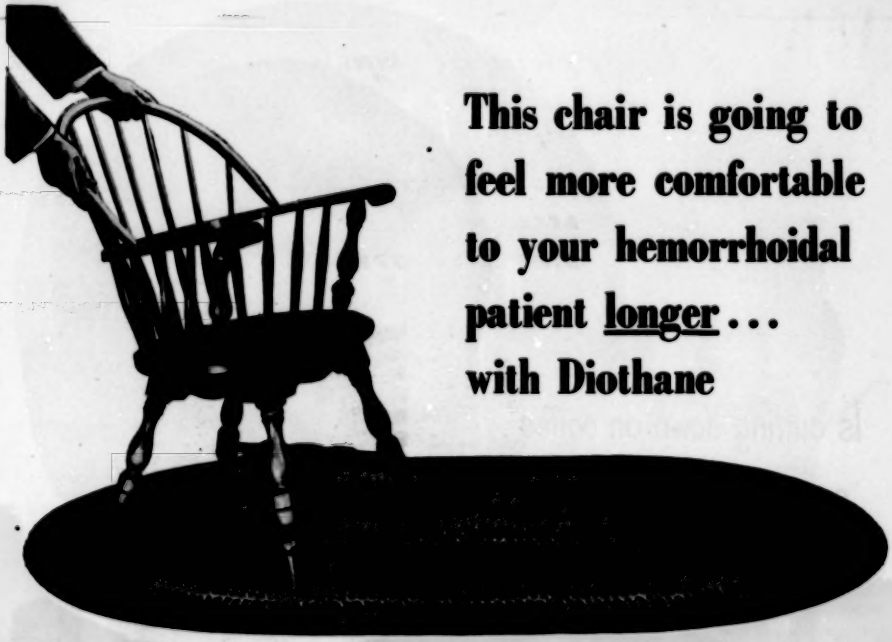

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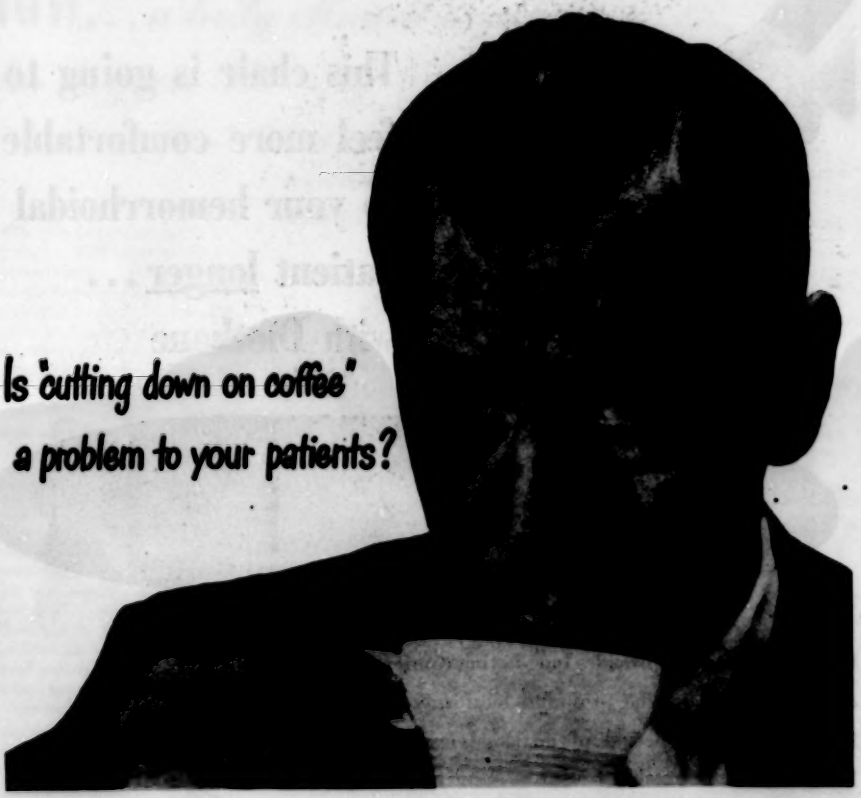

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*Anderson, J. and Stealy, C.: *Use of Nitrofuran Therapy in External Otitis*, Laryngoscope 58:1270, 1948 • Douglass, C.: *The Use of Furacin in the Treatment of Aural Infections*, Laryngoscope 58:1274, 1948 • Reardon, H.: *Unpublished results.*

(a) The Garter;
(b) The Star, worn on breast

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In 1349 King Edward III of England established this order of knighthood and its insignia has become the most famous in European history. The garter is dark blue, trimmed in gold, and bears the words *Honi soit qui mal y pense*. It is worn on the left leg below the knee on all ceremonial occasions.

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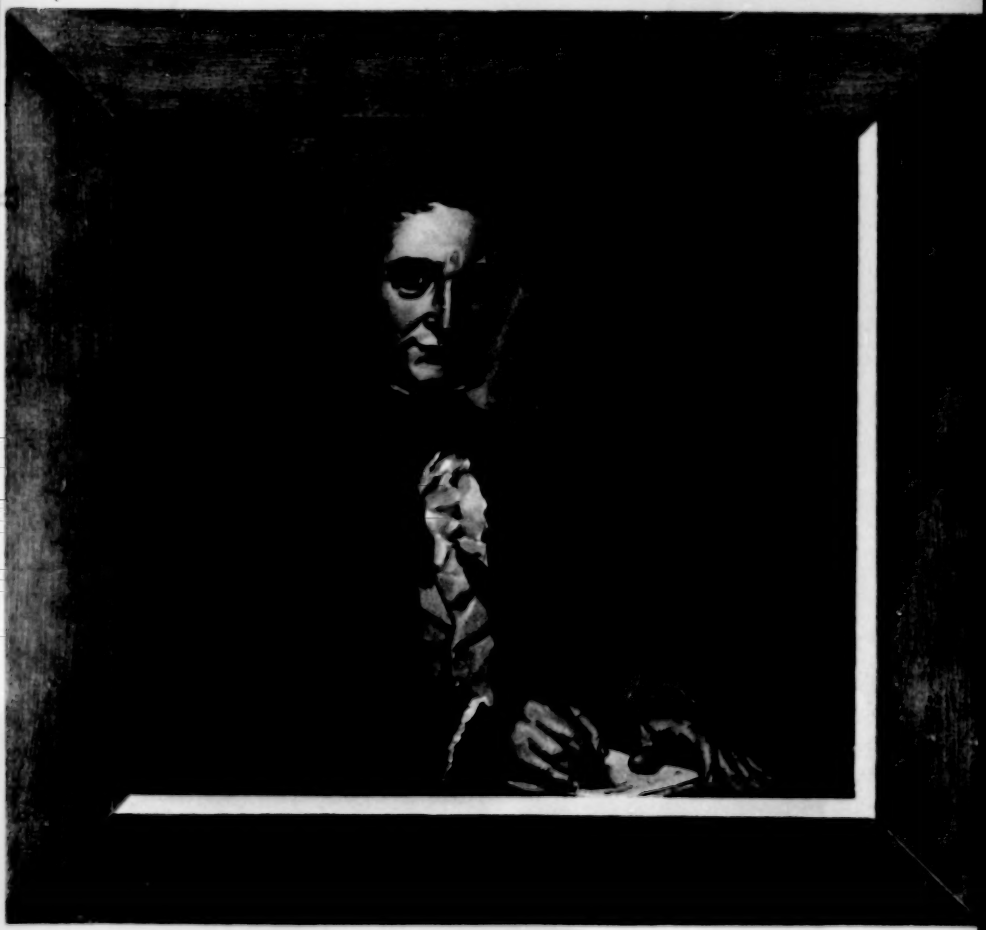

Robert James Graves M. D. 1797-1853

Robert James Graves was born in Dublin on March 27, 1797.* He established an outstanding record at Trinity College. He studied medicine at the School of Physic and also at the College School, and then spent several years abroad furthering his knowledge.

Dr. Graves began practice in Dublin in 1821 and was appointed physician to the Meath Hospital, where he was associated with another great Irish physician, Stokes. He achieved great fame both as a practitioner and as a lecturer and made many valuable original observations and contributions to medical science. He advocated a liberal diet in fevers and suggested that the words "He fed fevers" might be his epitaph.

In 1835 Dr. Graves published a report of 3 cases of exophthalmic goitre. His publication appears to have been preceded by that of Flajani (1800) and of Parry (1825), but his detailed description of the classical symptomatology was so excellent that the term "Graves' Disease" is in widespread use today. Basedow's publication did not appear until 1840—5 years later.

*Some references give his birth year as 1796.

Fifteenth in the series, PORTRAITS OF PIONEERS *in Endocrinology. A full-color reproduction of this painting, suitable for framing, is available upon request. On your professional letterhead, please address:*

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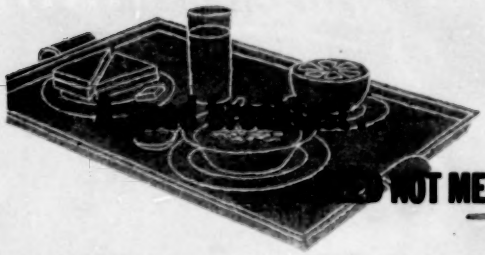

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In these carefully controlled investigations, university women students eating breakfasts providing 300, 600, and 1,000 calories respectively or omitting breakfast entirely during five-week experimental periods did not experience significant alterations in their weights. Free choice was allowed for the kinds and quantities of foods consumed at the other meals.

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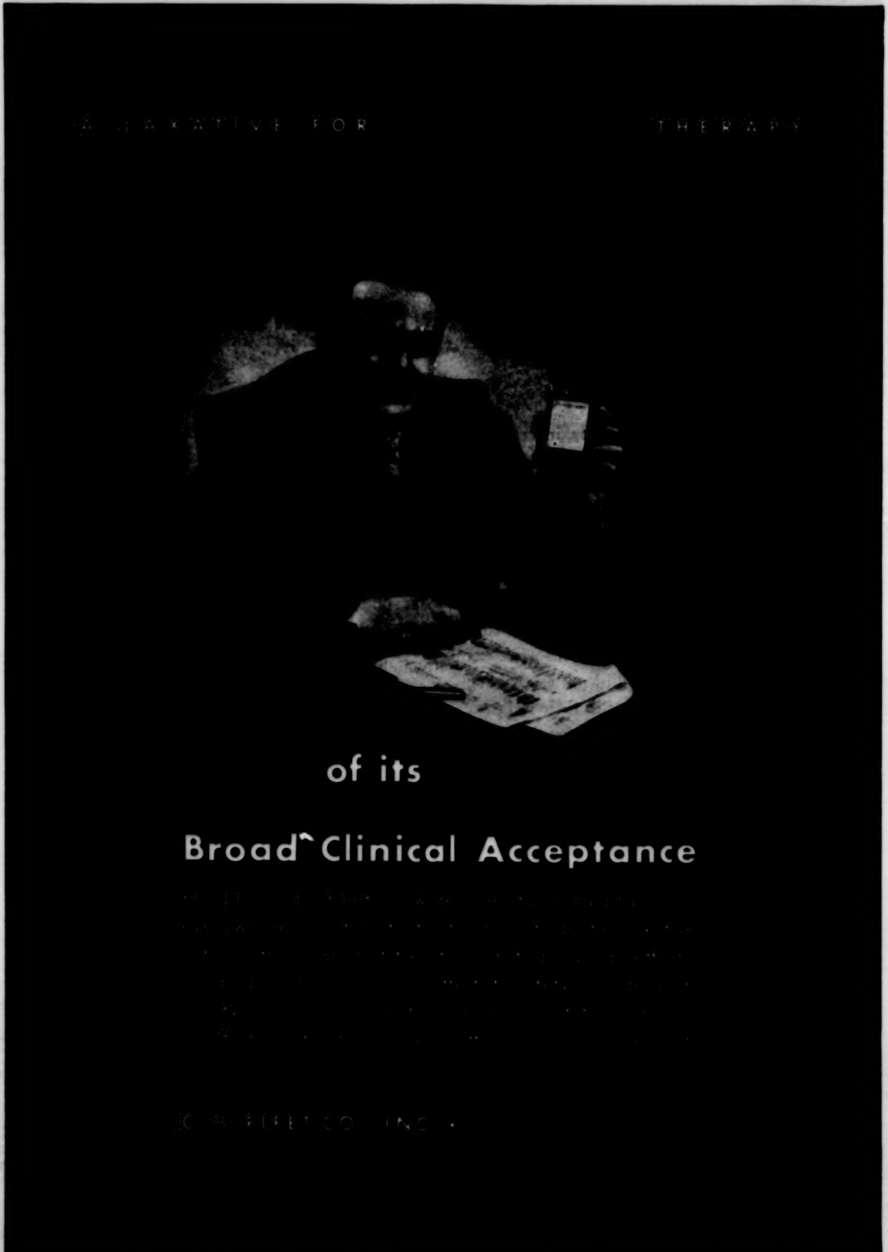
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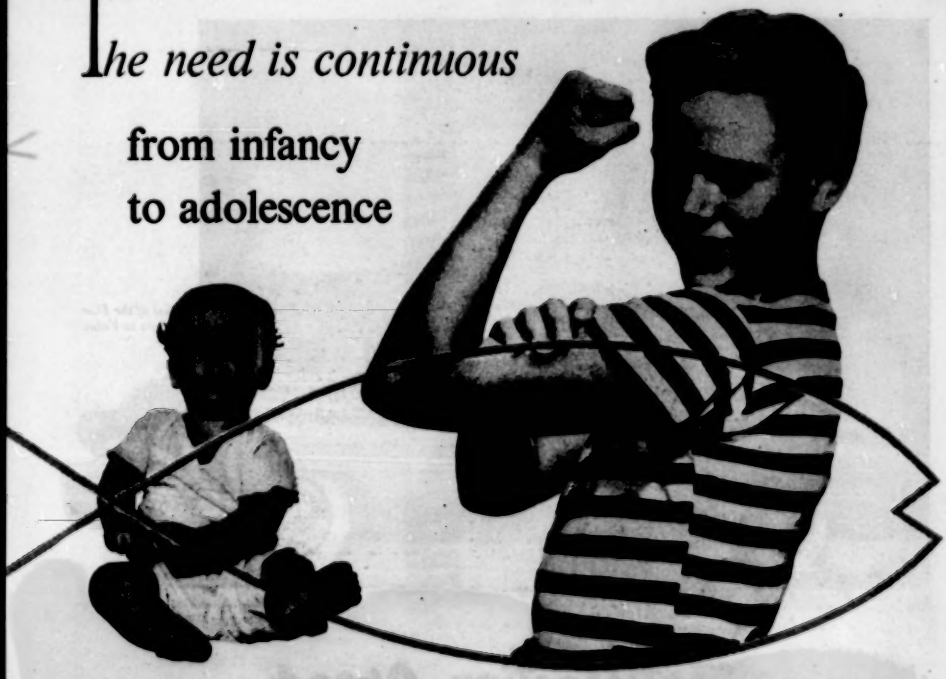

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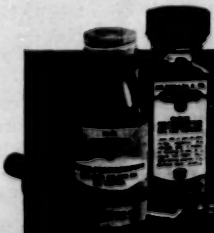

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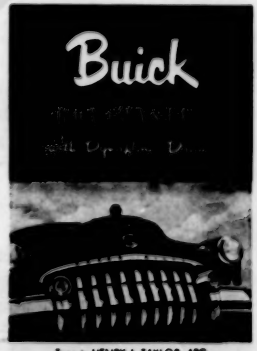

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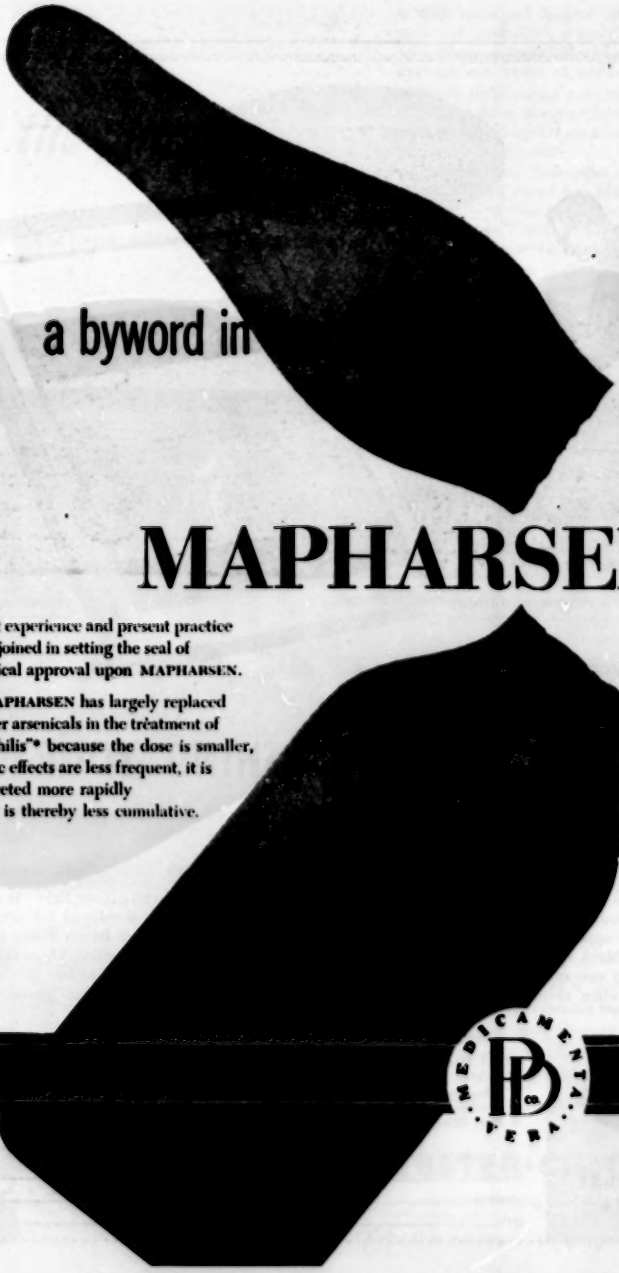

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1. Weiss, S., Espinal, R. B. & Weiss, J.: Therapeutic Application of Anion Exchange Resins in the Treatment of Peptic Ulcer, Review of Gastroenterology, 16:501-509, June, 1949.

Literature and samples available

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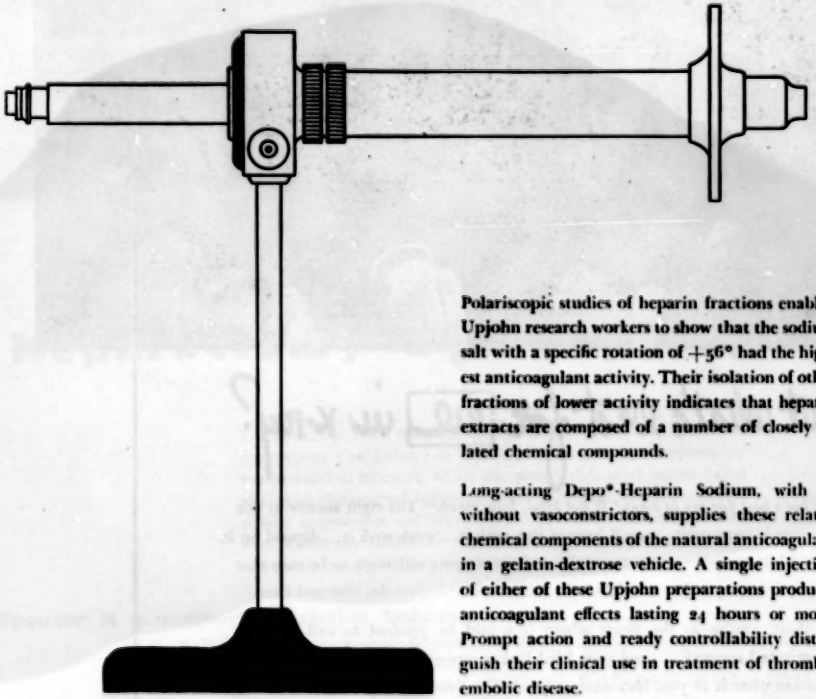

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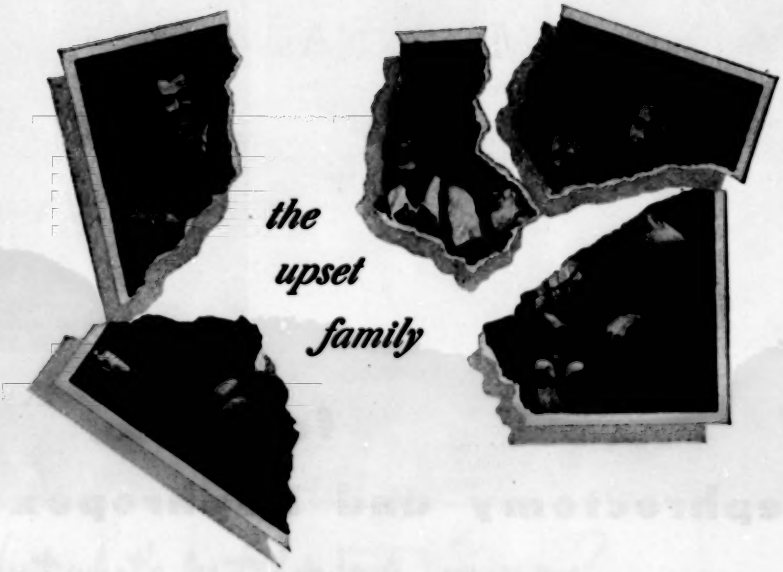

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PREVENTION OF RHEUMATIC FEVER

Treatment of the Preceding Streptococcic Infection

CAPT. FLOYD W. DENNY
CAPT. LEWIS W. WANNAMAKER
CAPT. WILLIAM B. BRINK
Medical Corps, Army of the United States
CHARLES H. RAMMELKAMP Jr., M.D.
Cleveland
and
EDWARD A. CUSTER, M.D.
Palo Alto, Calif.

The prevention of acute rheumatic fever by the prompt treatment of streptococcic infections with penicillin has been attempted in this study. The results obtained show that this attempt was successful, and, because of their importance, these results are presented here in a preliminary report.

The significance of an adequate means of prevention may be realized when it is considered that rheumatic fever develops in an estimated 200,000 to 250,000 persons in the general population of the United States yearly.[1] Figures for the Armed Services similarly show a high incidence, with an average of 7,300 cases annually for the seven year period from 1942 through 1948.[2] The gravity of the disease itself is emphasized by the estimate of Paul that at least 460,000 persons in the country today have rheumatic heart disease.[3] Not only is rheumatic fever a menace to health, but it is also a serious economic problem. A conservative estimate of the cost of each case that occurs in the Armed Services is $16,000.[2]

DESCRIPTION OF THE STUDY

The study was conducted at Fort Francis E. Warren, in southeastern Wyoming. The Fort is an air force technical training base where approximately 80 per cent of the men are trainees who report after twelve weeks of basic training at a southwestern base. The study began Jan. 24, 1949 and ran continuously until July 1, 1949, except for a ten day period in April. Although the average strength of the base during the study was 8,000 men, the actual number exposed to infection was much greater because the men remained in school only eight to thirty-two weeks.

All patients admitted to the hospital for disease of the respiratory tract were seen within a few hours by one of the members of the professional staff of the laboratory. Those having exudate on the tonsils or on the pharyngeal wall were included in the study group. A total of 1,634 such patients were observed.

A total of 798 patients whose Air Force serial numbers ended in an even digit received penicillin treatment, and 804 patients whose serial numbers ended with an odd digit comprised the control group and received no specific treatment.[4] Prior to March 3, 1949 the treatment consisted of 300,000 units of crystalline procaine penicillin G (suspended in peanut oil containing 2 per cent aluminum monostearate) given intramuscularly as soon after admission as possible. This dose was repeated in seventy-two hours. After March 3 the following change was made in the dosage schedule: 300,000 units were administered at the time of admission and again in forty-eight hours, and 600,000 units were given ninety-six hours after the initial dose. Of the 798 patients who received penicillin, 253 were treated before March 3. Eighty-eight per cent of the treated patients received the first penicillin within sixty hours after the onset of the symptoms of the streptococcic illness.

Follow-up studies for the detection of rheumatic fever were performed between the third and fourth weeks after the initial infection, without knowledge of the serial numbers of the patients or of their previous treatment. Those patients suspected of having acute rheumatic fever were hospitalized until a satisfactory diagnosis was established. Rigid criteria for diagnosis were followed. A modification of the classification of Jones [5] was used. This classification may be seen in the following tabulation:

MAJOR MANIFESTATIONS

- Carditis
  - a. Definite cardiac enlargement
  - b. Appearance of a significant murmur heretofore not present
  - c. Friction rub
  - d. Heart block or other electrocardiographic findings indicative of carditis
  - e. Cardiac failure
- Migrating polyarthritis
- History of recurrences
- Chorea
- Subcutaneous nodules

This investigation was supported through the Commission on Acute Respiratory Diseases, Armed Forces Epidemiological Board, Office of the Surgeon General, Washington, D. C.

From the Streptococcal Disease Laboratory, Fort Francis E. Warren, Wyo., and the Department of Preventive Medicine, Western Reserve University School of Medicine, Cleveland.

1. Swift, H. F.: Rheumatic Fever, in Cecil, R. L.: A Textbook of Medicine, Philadelphia, W. B. Saunders Company, 1947, p. 168.
2. Department of Preventive Medicine, Surgeon General's Office.
3. Paul, J. R.: The Epidemiology of Rheumatic Fever and Some of Its Public Health Aspects, New York, Metropolitan Life Insurance Company, 1943.
4. Thirty-two patients were excluded from the analysis because they were treated with aqueous penicillin by the ward physician for various reasons. In none of these patients did acute rheumatic fever subsequently develop.
5. Jones, T. D.: The Diagnosis of Rheumatic Fever, J.A.M.A. 126: 481 (Oct. 21) 1944.

MINOR MANIFESTATIONS

Fever
Abdominal pain
Arthralgia
Skin rash
a. Erythema marginatum
b. Erythema multiforme
Epistaxis
Pulmonary changes
Nonspecific electrocardiographic changes
Elevated erythrocyte sedimentation rate (20 or above considered abnormal)
Anemia

For a diagnosis of definite acute rheumatic fever a patient had to have two major manifestations or one major and two minor manifestations. For a diagnosis of probable acute rheumatic fever a patient had to have one major and one minor, one major or two minor manifestations. Instances of abdominal pain, epistaxis, pulmonary changes and anemia were encountered but did not contribute to the classification of these patients. No patient with chorea or subcutaneous nodules was encountered. Only persons in whom acute rheumatic fever developed between ten to thirty-five days after the onset of the observed streptococcic infection are included in this report.

TABLE 1.—*Cases of Rheumatic Fever Found at the Follow-Up Examination in the Treated and Untreated Groups*

	Number of Patients	
	Treated	Untreated
Definite rheumatic fever	2	17*
Probable rheumatic fever	2	6
Total	4	23†

* Test of significance shows that probability is 0.0005.
† Test of significance shows that probability is 0.0002.

TABLE 2.—*Persistence of Group A Beta Hemolytic Streptococci in the Treated and Untreated Groups*

	Treated (Percentage)	Untreated (Percentage)
Persons with group A beta hemolytic streptococci on admission	78.9	81.7
Persons with group A beta hemolytic streptococci on follow-up examination	18.1	32.7

Throat cultures and blood specimens were obtained from the patients on admission and again at the time of the follow-up examination. Strains of beta hemolytic streptococci isolated from cultures were grouped and typed according to the method of Lancefield.[6] Antistreptolysin O titration was performed on acute and convalescent serums according to a modification of the method of Hodge and Swift.[7]

RESULTS

Of the 798 patients that were treated with penicillin, definite acute rheumatic fever developed in only 2. In contrast, the disease developed in 17 of the untreated patients (table 1), a difference which could be due to chance only 6 times in 10,000. Of the 2 patients in the treated group who became ill with rheumatic fever, 1 was treated within eight hours after the onset of the symptoms of streptococcic disease and the second approximately seventy-two hours after the onset.

Probable acute rheumatic fever developed in 2 patients in the treated group and in 6 patients in the untreated group. Of the 2 patients in the treated group, 1 received penicillin forty-eight hours after the onset of symptoms of streptococcic disease and the second one hundred and eight hours after the onset. Whether the time of treatment of the initial infection is related to the development of poststreptococcic nonsuppurative complications cannot be determined at this time.

The effect of penicillin treatment on the presence of betahemolytic streptococci in cultures of the throat is shown in table 2. In the treated group the number of persons having streptococci was reduced from 78.3 per cent on admission to 18.1 per cent at the time of the follow-up examination. The untreated group showed a reduction from 81.7 per cent to only 52.7 per cent.

The development of antistreptolysin O in the treated and untreated groups was also different. In the treated group only 51 per cent of the patients showed a rise in titer of two or more tubes, while 73 per cent of the untreated patients showed a similar rise. Tests of significance support the validity of these differences.

The prevention of rheumatic fever, the inhibition of antibody and the partial eradication of streptococci in the group of patients treated with penicillin assume more significance when the composition of the treated group and that of the control group are compared. That the two groups were comparable is demonstrated in table 3, in which various features are presented. Moreover, a large proportion of the illnesses in both groups were streptococcic in origin, since group A beta hemolytic streptococci were isolated from 80 per cent of all cultures made at admission and since 73 per cent of the untreated patients showed an antistreptolysin response of two or more tubes.

COMMENT

The data presented concerning the incidence of rheumatic fever in the treated and control groups establish the fact that penicillin therapy of acute streptococcic infections will almost completely prevent the subsequent occurrence of rheumatic fever. These results emphasize again the close relationship between streptococcic disease and rheumatic fever.

Attempts to prevent the occurrence or the recurrence of rheumatic fever during the last decade have centered around the streptococcic disease that precedes most cases of acute rheumatic fever. Coburn,[8] Kuttner and Reyersbach[9] and Hodges[10] showed that sulfonamide drugs, given prophylactically, not only reduced the incidence of streptococcic disease but also reduced the occurrence of rheumatic fever. This would seem to be a practical means of prevention in two situations: (*a*) in closed groups in which the incidence of streptococcic disease is extremely high and (*b*) in select groups, such as patients with inactive rheumatic fever or rheumatic heart disease, in which the danger of recurrence is great.

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9. Kuttner, A. G., and Reyersbach, G.: The Prevention of Streptococcal Upper Respiratory Infections and Rheumatic Recurrences in Rheumatic Children by the Prophylactic Use of Sulfanilamide, J. Clin. Investigation **22**:77 (Jan.) 1943.

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This method of prevention has not proved to be practical for the general population, however, because of the toxicity of the sulfonamide drugs, the high precentage of sulfonamide-resistant strains of streptococci that develop and the difficulty that is entailed in mass prophylaxis.[8]

Treatment after the development of the streptococcic infection has been another approach to the problem. Sulfonamide drugs have proved to be ineffective when used in this manner.[11] Experience with penicillin has been conflicting. Weinstein, Bachrach and Perrin [12] treated 225 patients with streptococcic disease with penicillin; in 7 of these patients rheumatic fever subsequently developed. This observation supports Finland's [13] conclusion, from a review of the literature, that penicillin is not effective when used in this manner for the prevention of rheumatic fever. On the contrary, Massell, Dow and Jones [14] employed penicillin to treat ten clinical and five subclinical hemolytic streptococcic infections in patients hospitalized for rheumatic fever or rheumatic heart disease; the patients failed to exhibit subsequent recurrences. Jersild [15] has shown that poststreptococcic complications, including nephritis,

TABLE 3.—*Comparability of Treated and Untreated Groups*

	798 Treated Patients (Percentage)	804 Untreated Patients (Percentage)
Age (years):		
17-19	61.0	62.0
20 and over	39.0	38.0
Previous history of rheumatic fever	3.5	4.4
Tonsils present	72.7	70.7
Cervical nodes enlarged or tender	50.1	46.3
Leucocyte count 15,000 or over at admission	54.7	56.3
Persons with group A beta hemolytic streptococci at admission	78.3	81.7
Antistreptolysin O titer of 125 units or less at admission	70.3	69.1
Follow-up obtained	83.7	92.8

are reduced after penicillin treatment of the initial illness, but he makes no statement about the occurrence of rheumatic fever.

The theory has been advanced that rheumatic fever is associated with a peculiar response to an unknown antigen-antibody reaction. Kilbourne and Loge [16] showed that early and intensive pencillin therapy against streptococcic disease suppressed the production of antistreptolysin O. It has been shown here that adequate treatment with penicillin not only suppresses the antistreptolysin response but also prevents rheumatic fever. Whether the antibody suppression is only a reflection of the inhibition of some more basic process in the mechanism of rheumatic fever or is in itself the responsible factor is entirely speculative at this time.

Exudate on the tonsils or oropharynx was used as the sole means of selection of patients to be included in this study because it was a rapid, easily standardized method. It was thought that such a criterion would include the majority of streptococcic infections of the respiratory tract, since various studies have shown that exudative lesions of the throat appear in 60 to 90 per cent of streptococcic infections,[17] particularly in a population experiencing epidemic rates of streptococcic illnesses. The isolation of group A streptococci from 80 per cent of the patients and the demonstration of an increase in the antistreptolysin O titer in 73 per cent of the control group indicate that the majority of the patients actually had streptococcic disease. A few undoubtedly had nonstreptococcic exudative tonsillitis.

If the incidence of rheumatic fever is to be reduced materially by early treatment with penicillin, it becomes necessary that streptococcic infections be diagnosed accurately and early. In some cases the clinical findings alone will permit an almost certain diagnosis of streptococcic infection. Characteristically, such illnesses present a sudden onset of sore throat with pain on swallowing, fever and other constitutional reactions, diffuse redness and edema of the soft palate, tonsils and oropharynx, discrete or confluent exudate and large or tender cervical lymph nodes. Supportive data may be obtained from the laboratory. Many patients will have an elevated total leukocyte count. Cultures of the pharynx will almost always show a predominant growth of beta hemolytic streptococci. Depending on the availability and use of the preceding criteria, a large percentage of streptococcic respiratory infections can be reliably and rapidly diagnosed, particularly during an epidemic period. Treatment with penicillin can thus be instituted immediately.

SUMMARY

Evidence is presented to indicate that rheumatic fever can be prevented by the treatment of streptococcic disease with penicillin. A total of 798 patients with streptococcic infections were treated with penicillin; in only 2 did acute rheumatic fever subsequently develop. Of 804 untreated patients, the disease developed in 17. Penicillin therapy likewise suppresses the antistreptolysin O response and eradicates the streptococci in many cases.

11. Commission on Acute Respiratory Diseases: A Study of a Food-Borne Epidemic of Tonsillitis and Pharyngitis Due to Beta-Hemolytic Streptococcus, Type 5, Bull. Johns Hopkins Hosp. **77**:143 (Sept.) 1945.

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17. Rantz, L. A.; Boisvert, P. J., and Spink, W. W.: Hemolytic Streptococcic and Nonstreptococcic Diseases of the Respiratory Tract, Arch. Int. Med. **78**:369 (Oct.) 1946. Footnote 11.

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PITUITARY ADRENOCORTICOTROPIC HORMONE (ACTH) THERAPY IN EOSINOPHILIC LEUKEMIA

A Preliminary Report

W. L. DONOHUE, M.D.
C. E. SNELLING, M.B.
S. H. JACKSON, Ph.D.
J. D. KEITH, M.D.
A. L. CHUTE, M.D.
B. LASKI, M.D.
and
HELLES SILVERTHORNE, M.B.
Toronto, Canada

Eosinophilic leukemia is a rare condition and perhaps because of its infrequence has not been completely accepted by all authorities as a clinical entity. However, there is the occasional case of leukemia in which the most striking feature is a preponderance of eosinophils among the leukemic cells. Whether this type of leukemia is merely a variation of a myeloid leukemia or entitled to a separate classification is an academic question. Evans and Nesbit [1] in a recent review were able to collect 18 cases of eosinophilic leukemia, and they added 1 case of their own. In approximately 200 cases of leukemia studied at the Hospital for Sick Children the case under consideration, with the possible exception of 1 other case, which did not fulfil all the requirements for a definitive diagnosis of eosinophilic leukemia, is the only one of this type which has been encountered.

In pituitary adrenocorticotropic hormone (ACTH) therapy the effects of the stimulation of the adrenal cortex on the excretion of cortin-like substances in the urine, carbohydrate metabolism, electrolyte balance and nitrogen balance have been described.[2] A relationship between lymphoid tissue and adrenocortical hormone has also been established.[3] In addition, a depression of the total number of circulating eosinophils after the administration of pituitary adrenocorticotropic hormone has been described.[4] A requisite for the occurrence of this phenomenon is an adrenal cortex capable of stimulation. Thorn, Forsham, Prunty and Hills [5] have elaborated a test for adrenal cortical insufficiency on the basis of the reduction of the circulating eosinophils and an increase in urinary uric acid–creatinine ratio following stimulation of the adrenal cortex by the hormone. In the absence or impairment of function of the adrenal cortex, a reduction of the circulating eosinophils does not occur after the administration of the compound.

On the basis of the known depressant effect of adrenal cortical activity on the number of circulating eosinophils, it was considered that there was a rational basis for the treatment of a patient who had eosinophilic leukemia with pituitary adrenocorticotropic hormone. The following case report gives the salient clinical features, methods of investigation, treatment and net results to date. A detailed analysis of the hematologic and metabolic studies and a further follow-up will be given in a subsequent report.

REPORT OF CASE

History.—W. B., a boy 7 years of age, was admitted to the Hospital for Sick Children on Oct. 19, 1949. The complaint was pain in the right knee for two days, two months prior to admission, and occasional joint pain and fever for three weeks. It was stated that the father had hay fever and asthma, but the family history was otherwise noncontributory. The boy had received unboiled, unpasteurized milk since he was 1 year of age. He had not had any of the infectious diseases but had been immunized for diphtheria and pertussis. Except for the present illness, he had always been healthy. The tonsils were removed when he was 3 years of age. Two months prior to admission he was seen by the family physician because of pains in the legs. The boy was not considered to have rheumatic fever at this time.

Three weeks prior to admission the mother thought the boy did not look well. She noted that his temperature was elevated to 100 F.; because the child complained of an occasional joint pain, the family physician was again consulted. A diagnosis of rheumatic fever was made at this time. Later the boy was seen by a pediatric consultant, who confirmed the diagnosis and prescribed large doses of acetylsalicylic acid. This was not tolerated, so the child was admitted for treatment and investigation.

Physical Examination.—The boy was well developed and undernourished; he was not acutely ill but appeared pale. The temperature was 101 F. and the pulse rate 125 per minute. Except for the pallor, questionable enlargement of the cervical lymph nodes and a geographic tongue, the only abnormal observations were in the heart. The pulse was rapid and regular. The apex beat was in the sixth interspace in the midclavicular line. There was a loud, blowing, systolic murmur at the apex transmitted to the axilla and somewhat to the pulmonary area. This murmur had none of the qualities of a hemic murmur. The blood pressure was 128 systolic and 80 diastolic. The sedimentation rate was 27 mm. per hour (Landau). Roentgen examination of the heart showed slight enlargement with an accentuation of the hilar markings, suggestive of congestive heart failure. The urine was normal.

Routine blood investigation revealed: hemoglobin 8.8 Gm. per hundred cubic centimeters; red blood cell count 3,200,000; white blood cell count 22,100, and platelet count 200,000, with a differential count of eosinophils 47 per cent, neutrophils 25 per cent, young metamyelocytes 1 per cent, lymphocytes 27 per cent and 1 nucleated red blood cell per 100 white blood cells. As part of the investigation to explain the eosinophilia, sternal marrow studies were done; there was a total nucleated count of 150,000 cells per cubic millimeter (upper limits of normal by our methods), with 70 megakaryocytes per million nucleated cells. The differential count (400 cells) was blast forms 53 per cent, myelocytes 0.5 per cent, juvenile neutrophils 2 per cent, eosinophilic myelocytes 2.5 per cent, eosinophilic metamyelocytes 2.5 per cent, juvenile eosinophils 2.5 per cent, adult

This study was aided in part by a grant from the Ontario Cancer Treatment and Research Foundation.

The purified pituitary adrenocorticotropic hormone (ACTH) used in this study was provided by Dr. John Mote of the Armour Laboratories, Chicago.

From the Department of Pathology, the Hospital for Sick Children, and the Department of Pathology of the University of Toronto Faculty of Medicine (Dr. Donohue).

From the Wards and Laboratories of the Hospital for Sick Children and the Department of Pediatrics of the University of Toronto Faculty of Medicine under the direction of Dr. Alan Brown, M.D., F.R.C.P. (Drs. Snelling, Jackson, Keith, Chute, Laski and Silverthorne).

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eosinophils 7.5 per cent, lymphocytes 23 per cent and nucleated red blood cells 4.5 per cent. In view of these marrow observations a diagnosis of eosinophilic leukemia was made. Roentgenograms of the long bones showed transverse bands of radiotranslucency in the metaphysial regions, which were considered to be in keeping with a diagnosis of leukemia. The tuberculin reaction was negative (0.05 mg. old tuberculin intracutaneously). Agglutination reactions for typhoid, paratyphoid and Brucella abortus were negative. Blood cultures on two occasions were negative. Stools were negative for ova and parasites. A trichinella antigen reaction was negative.

In spite of reluctance on the part of the clinicians to diagnose two diseases, it was considered that the boy had leukemia and rheumatic carditis, rather than that the cardiac observations could be attributed to a bizarre manifestation of a leukemic process. The diagnoses were eosinophilic leukemia and rheumatic carditis with mitral involvement.

Course.—In one week the hemoglobin level dropped to 7.7 Gm. per hundred cubic centimeters, but there were no other significant changes in the clinical or laboratory data. Because of the unusual combination of rheumatic carditis and a rare type of leukemia, it was decided that the boy should be kept under observation. He was given two transfusions of 500 cc. of blood, which raised his hemoglobin level to 10.1 Gm. per hundred cubic centimeters, and he was discharged Nov. 10, 1949 to return at weekly intervals. The sternal marrow the day before discharge showed a total nucleated count of 85,000 with 52 per cent blast forms.

He was readmitted one and a half weeks later, November 22. Except for another fall in hemoglobin to 8.4 Gm. per hundred cubic centimeters, there was no remarkable change in his health in the interval. The physical examination on this admission revealed essentially unchanged conditions except that the tip of the spleen was palpable. A sternal marrow aspiration the day after his second admission showed 88 per cent blast forms. During approximately six weeks of observation the patient's white blood cell count varied from 34,000 to 10,000, tending gradually to fall. The films showed eosinophilia constantly (from 40 to 50 per cent). A considerable number of the eosinophils were abnormal in that they were deficient in granules. Only rarely was an occasional blast form encountered in the peripheral blood.

Late in November an allotment of pituitary adrenocorticotropic hormone was made to ascertain its effect on this particular type of leukemia. As far as possible a complete chemical and hematologic investigation was planned, including balance studies. When the aid of various specialists was indicated, it was enlisted.

Prior to the establishment of a base period of observation beginning Dec. 1, 1949, two transfusions of 250 cc. of blood were given. During the base period deterioration in the cardiac condition was noted, the liver became enlarged down to the umbilicus, and there was moisture in the bases of both lungs. There was no generalized edema. The tip of the spleen was palpable. At the end of the base period of observation, December 8, the white blood cell count had decreased from its previous high of 34,000 to 9,200, with 2,900 eosinophils. The sternal marrow at this time showed 95 per cent blasts forms, which was considered to be an indication of the advancement of the disease.

On December 9 the intramuscular administration of pituitary adrenocorticotropic hormone, 80 mg. per day in four divided doses, was started; treatment continued for six and one-half days, during which a total of 500 mg. was given. In this period he received three transfusions of 100 cc. of whole blood.

After administration of the drug, the heart murmur was not significantly altered but merely registered minor day to day variations. The liver began to enlarge, slowly at first and then rapidly, so that four to five days after the commencement of therapy it was 4½ to 5 inches (11.4 to 12.7 cm.) below the right costal margin. At this time the subcutaneous tissues of the body were slightly edematous and fine creptitations appeared at the bases of the lungs. As the boy was rapidly approaching a state of acute cardiac decompensation, he was placed on a low sodium diet (20 to 30 mg. per twenty-four hours) and 0.25 mg. digoxin per day was given. Both of these measures were continued throughout the remainder of his hospitalization. The pituitary adrenocorticotropic therapy was stopped two days later (December 15) because of heart failure. At this time there were fine rales at the base of the lungs, enlargement of the liver down to the pelvis, free fluid in the abdomen, edema of the scrotum, puffiness of the face and pitting edema of the legs. During this first period of hormonal administration the number of eosinophils in the peripheral blood rapidly fell to zero (absolute count [6]) with a corresponding decrease in the white blood cell count. The sternal marrow at the end of the period showed a decrease in the number of blast forms to 66 per cent. The signs of cardiac failure began to disappear with the cessation of administration of pituitary adrenocorticotropic hormone. The liver became smaller, the edema disappeared, the chest cleared and the boy lost weight, coincident with a copious diuresis and increase in the output of sodium chloride in the urine. A transfusion of 100 cc. of whole blood was given December 19. In the interval between the first and second course of the drug, the eosinophils quickly reappeared in the peripheral blood to reach a maximum considerably in excess of normal (630 per cubic millimeter, or 13 per cent of a total white blood cell count of 5,000). The following day, December 20, five days after withdrawal of the drug, treatment was restarted at a lower dosage of 40 mg. per day in four divided doses, and the drug was administered continuously for a period of eighteen days for a total of 680 mg. On December 23 another transfusion of 100 cc. of whole blood was given. No further change was noted for one week, then slight edema of face, abdomen and sacrum appeared and there was a slight enlargement of the liver. These changes were slowly progressive, but while receiving 40 mg. per day of the hormone the patient did not exhibit the degree of cardiac decompensation noted with the administration of 80 mg. per day.

At the termination of pituitary adrenocorticotropic hormone therapy on Jan. 6, 1950 there was considerable edema of the scrotum, sacrum and abdominal wall and some free fluid in the abdomen. However, the liver had not enlarged significantly and there were no crepitations in the lungs. A striking feature was the lack of edema of the extremities. On the day when the drug was discontinued the boy, whose face had gradually become moon-shaped during the course of treatment, began for the first time to show acne on the forehead and cheeks. In addition his voice became somewhat lower. After discontinuance of the drug the edema and scrotal swelling gradually cleared in approximately one week, concomitant with diuresis. About half way through the second course of therapy, the patient's appetite became voracious. Subsequent to the transfusion of blood given Dec. 23, 1949 the hemoglobin level was maintained and further transfusions were not necessary, in spite of the fact that approximately 10 cc. of blood was withdrawn daily for the next two weeks for various blood tests.

In the accompanying graph are shown the main hematologic observations. The details of the peripheral and marrow differential counts have been omitted. During the second period of hormonal administration the absolute eosinophil count gradually fell over a period of eight days from 580 per cubic millimeter to zero and stayed at this level for the remaining ten days. The white blood cell count showed a decrease roughly corresponding to the elimination of the eosinophils. After completion of the second course of hormonal therapy the eosinophils returned gradually in the peripheral blood but at the time of discharge had not exceeded normal limits.

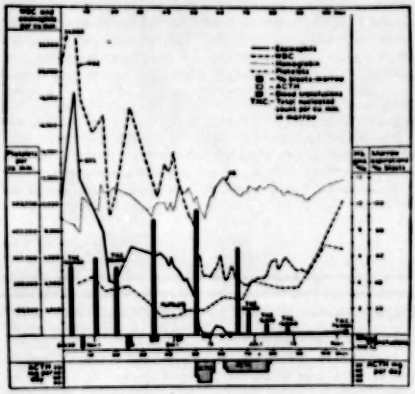
A sternal marrow aspiration performed Dec. 29, 1949, approximately half way through the second course, showed a total

6. The Dunger method of counting eosinophils (Dunger, R.: Eine Einfache Methode der Zählung der eosinophilen Leukozyten und der praktische Wert dieser Untersuchung, München. med. Wchnschr. **57**:1942, 1910), as recommended by Thorn and others,[1] was not entirely satisfactory because of the rapid disintegration of the eosinophils. Empirically it was found that the addition of 3 per cent of a 40 per cent solution of formaldehyde to the eosin-acetone solution yielded a counting fluid in which the eosinophils were easily recognized and stable for several hours.

nucleated cell count of 20,000 per cubic millimeter, with 17 per cent blast forms. This was repeated Jan. 5, 1950, the day prior to cessation of treatment, yielding a total nucleated count of 8,500 per cubic millimeter and 8.5 per cent blast forms. A further marrow aspiration January 19, eight days after discontinuation of the drug, showed a total nucleated count of 15,000 per cubic millimeter with 6 per cent blast forms. Coincident with the decrease in the number of blast forms there was an increase in the number of cells of the erythrocytic and granulocytic series.

On January 22 the boy was discharged to return at weekly intervals for follow-up. There was evidence that in regard to his leukemia a remission of important degree had occurred. His cardiac condition was unimproved, and this necessitated confinement to bed and/or a wheel chair with an appropriate cardiac regimen.

At the boy's last visit to the hospital on Feb. 3, 1950, four weeks after cessation of the hormonal therapy, there was still no evidence of a recurrence of the leukemia. The hemoglobin level had increased slightly



Hematologic observations in patient with eosinophilic granuloma treated with pituitary adrenocorticotropic hormone (ACTH).

to 11.8 Gm. per hundred cubic centimeters; the total white blood cell count was 10,200 per cubic millimeter, with 244 eosinophils (2 to 3 per cent); platelets numbered 325,000 per cubic millimeter, and the sternal marrow showed a total nucleated cell count of 75,000 per cubic millimeter, with 4 per cent blast forms. It was also considered that the cardiac condition of the boy was slightly improved.

COMMENT

On the basis of (1) the large number of circulating eosinophils, including some abnormal forms, (2) progressive anemia, (3) the bone marrow observation of a high proportion of primitive eosinophils and blast forms early in the investigation, with a progressive increase in the number of blast forms prior to treatment, and (4) the suggestive roentgen observations in the long bones, it is considered that a diagnosis of eosinophilic leukemia was justified.

Although the total white blood cell count and the absolute number of circulating eosinophils were decreasing prior to the administration of pituitary adrenocorticotropic hormone, there was ample evidence that the boy's condition was gradually becoming worse, as indicated by the persistent anemia requiring repeated transfusions of blood and the progressive increase in the number of blast forms in the bone marrow during the relatively short period of observation.

Striking features in this case were the behavior of the circulating eosinophils during and subsequent to the administration of the hormone and the gradual reduction in the number of blast forms in the bone marrow to a relatively low count. A significant observation is that since December 23, even though approximately 10 cc. of blood was withdrawn daily for two weeks during the test period for various chemical determinations, no transfusions have been given and the hemoglobin level has been maintained. Sufficient marrow for a total nucleated count was not obtained at every marrow aspiration, but at the last three aspirations, all of which yielded sufficient material, the total marrow count obtained was low. As the differential indicated that marrow was undoubtedly obtained, the low counts concomitant with the decrease in blast forms probably indicated a fundamental change in the bone marrow.

The hematologic observations demonstrate that the administration of pituitary adrenocorticotropic hormone produced in this child with eosinophilic leukemia a significant remission which has been sustained for four weeks. Further study will determine how long the remission will last.

The biochemical aspect of this case was followed in some detail. The data obtained are too extensive to be published in this report, but the following general observations were made. The nitrogen balance was positive during the first half of the treatment, becoming negative during the second half. At the time the nitrogen balance became negative other variations were apparent. The creatine and total sulfate excretion in the urine rose sharply and maintained a high plateau. The potassium balance fluctuated widely, the calcium balance became negative and the phosphorus balance no longer paralleled the calcium balance. Also, the urinary urobilin, which had been strongly positive during most of the treatment with the hormone, became negative. These peculiar fluctuations in the chemical balance in all probability indicate a profound shake-up in the metabolism. This period coincided with the period in which there was the greatest fall in the blast forms in the bone marrow.

The sodium and chloride balances showed decided retention, particularly of sodium, during the entire treatment. The edema was probably controlled only by the low sodium diet employed, as practically all the sodium present in the food was retained. Creatinine excretion was essentially constant throughout. The uric acid excretion reached a high peak during the first course of treatment with 80 mg. of the hormonal agent per day. It dropped sharply when treatment was stopped and maintained a level slightly above that of the base period for the remainder of the study. Excretion of 17-ketosteroids rose progressively during treatment to a peak of 18 mg. per day. It dropped sharply when treatment was stopped.

Variations in blood values for sodium, potassium, chloride, calcium and nonprotein nitrogen were minor and within normal limits. Serum inorganic phosphorus

was somewhat low during treatment, increasing to normal after treatment was stopped. Phosphatase was low. Fasting blood sugar levels and dextrose tolerance curve values were above normal.

During the later part of the period of hormonal administration the boy manifested a "Cushing syndrome-like" moon-shaped face with acne on the forehead and nose. These gradually cleared in the two weeks following the treatment. Throughout the entire period of observation the boy was alert, intelligent and cooperative. He was seen repeatedly by members of the psychiatric service, and there was no obvious development of a state of euphoria.

A complicating feature was the cardiac involvement. It is the opinion of the cardiologist that in all probability the heart lesion was rheumatic with myocardial and mitral involvement. Throughout the entire period of observation, except for the acute decompensation produced by the water and sodium retention during the first course of pituitary adrenocorticotropic hormone and minor variations in the quality of the murmur observed during the entire course of treatment, there was no significant alteration either for better or for worse in his heart condition. During the period of observation the maximum blood pressure recorded was 128 systolic and 95 diastolic and the minimum was 90 systolic and 60 diastolic; there was no demonstrable relation between fluctuation in the blood pressure and the administration of the hormone.

SUMMARY AND CONCLUSION

1. A case of eosinophilic leukemia with associated rheumatic heart disease is reported.

2. Treatment with pituitary adrenocorticotropic hormone (ACTH) had the following effect on the leukemia: (*a*) The circulating eosinophils were completely eliminated during the period of administration; (*b*) since withdrawal of the drug the circulating eosinophils have remained within normal limits to the date of writing (four weeks), and (*c*) a remission in the bone marrow has been produced, reducing the blast forms from a high of 95 per cent to 4 per cent, a level which has been maintained to date.

3. The usual side effects of administration of pituitary adrenocorticotropic hormone were noted.

4. The hormonal therapy did not result in significant alteration in the cardiac condition.

ADDENDUM

The patient has been followed for a total of fifteen weeks after the first two courses of hormonal therapy. During the first thirteen weeks of this period he did not receive treatment. His clinical condition remained essentially unchanged, and the hemoglobin was maintained at approximately 10 to 11 Gm. per hundred cubic centimeters. However, there was a slow but steady increase in the numbers of circulating eosinophils to a maximum of 2,500 per cubic millimeter (26 per cent), with a total white blood cell count of 9,500 per cubic millimeter, and the blast forms in the marrow had increased from a low of 4 per cent to 11 per cent. During the last two of the fifteen weeks of follow-up the boy has been receiving a third course of pituitary adrenocorticotropic hormone. The hematologic response to this last course appears to be more sluggish than that obtained during the first two courses.

ANTIHISTAMINIC DRUGS FOR COLDS

Evaluation Based on a Controlled Study

LIEUTENANT COLONEL R. J. HOAGLAND
CAPTAIN E. H. DEITZ
LIEUTENANT P. W. MYERS
and
LIEUTENANT H. C. COSAND
Medical Corps, United States Army
West Point, N. Y.

In view of the favorable reports concerning the use of antihistaminic drugs in treatment of the common cold [1] and in view of the recent release of these agents to the public without medical prescription, with the prompt appearance of an onslaught of full page newspaper advertisements and radio announcements, it seemed advisable under controlled conditions to confirm the efficacy of orally administered antihistaminic drugs in the treatment of the common cold and also to test the effect of such a drug given intranasally. For these reasons we decided to administer tripelennamine hydrochloride (pyribenzamine hydrochloride®)[2] orally and by nebulizer and chlorothen (tagathen®)[3] citrate (N,N-dimethyl-N'-[2-pyridyl]-N'-[5-chloro-2-thenyl]-ethylenediamine citrate) orally. In addition, inert tablets resembling tripelennamine and an inert solution in nebulizers similar to the tripelennamine-containing nebulizers were used as controls.[2]

Any form of treatment for the common head cold is influenced by so many factors that only a rigidly controlled study eliminating as many variables as possible will provide results on which relatively valid conclusions can be based. Some of the variables are: suggestibility of patients and also their physicians; fluctuation of a person's degree of immunity; difficulty of objective diagnosis of a head cold; unreliability of subjective impressions of a developing head cold until clearcut symptoms such as "sniffles" occur, and even then the patient may have some other disease, such as hydrorrhea due to vasomotor rhinitis; the variable course of a head cold; the difficulty of follow-up examinations in a relatively trivial, spontaneously curable and self-limited disease, and variations in age and general health of patients.

Some of these factors merit further discussion. Fluctuations of immunity were discussed by C. H. Andrewes [4] in his Dunham Lecture at Harvard Medical School. He concluded that almost everyone has his own "foolproof" technic for preventing or curing colds, yet colds are as numerous and as troublesome as ever. Even the most eminent men of science almost invariably lose all sense of critical judgment where their own colds are concerned. The spontaneous variation of duration of head colds was shown by H. S. Diehl,[5] who found that 35 per cent of patients with colds who received lactose reported good results; and he stated that it is because this percentage is so large that it is possible to convince the public that almost any treatment for colds is of value. He found that some of his reports from persons receiving lactose would have made admirable testimonials for this inert material.

1. (*a*) Brewster, J. M.: Benadryl as Therapeutic Agent in Treatment of Common Cold, U. S. Nav. M. Bull. **47**: 810 (Sept.-Oct.) 1947; (*b*) Antihistaminic Drugs in the Therapy of the Common Cold, ibid. **49**: 1 (Jan.-Feb.) 1949. (*c*) Murray, H. G.: Treatment of Head Colds with an Antihistaminic Drug, Indust. Med. **18**: 215-216 (May) 1949.
2. Supplied by Ciba Pharmaceutical Products, Inc., Summit, N. J.
3. Supplied by Lederle Laboratories Division, American Cyanamid Company, Pearl River, N. Y.
4. Andrewes, C. H., cited by Time **44**: 99 (Nov. 21) 1949.
5. Diehl, H. S.: Medicinal Treatment of Common Cold, J. A. M. A. **101**: 2042 (Dec. 23) 1933.

REVIEW OF LITERATURE

Brewster[1a] in 1947 reported the abortion of the common cold in 10 per cent of over 100 patients treated with diphenhydramine hydrochloride. He stated that there was no prevention of the secondary sinus infection once the cold had fully developed and that the ideal of treating patients experiencing initial symptoms of nasopharyngeal soreness and nasal engorgement could seldom be attained, even in a small and closely knit staff. Inhibition of serous discharge from respiratory mucous membranes was the most important result obtained.

However, in 1949 Brewster[1b] stated that of 572 patients with the common cold treated with antihistaminic drugs 19 (90 per cent) of 21 treated within an hour after the onset of symptoms were cured, as were 74 per cent of 116 patients who were treated within the first six hours. Brewster acknowledged the diagnostic difficulties involved in making a diagnosis within the first hour and stated that many would properly challenge the possibility of such a diagnosis.

Murray[1c] reported an uncontrolled series of 494 subjects with head colds treated with tripelennamine hydrochloride: 22.3 per cent reported disappearance of all symptoms within twenty-four hours; 41.3 per cent reported pronounced lessening of discomfort or disappearance of symptoms in two or three days; 16.8 per cent were "greatly improved" or were not entirely free of symptoms for six or seven days, and 19.6 per cent observed no effect.

Diehl, Baker and Cowan[6] made a discovery of importance to any investigator attempting to appraise the efficacy of drugs used for colds. A group of 276 patients receiving an inert material for the prevention of colds reported an average of 5.6 colds during the year preceding the study but only 2.1 colds during the year of study. Similar results were obtained in the next year in another control group of 372 patients (average of 5.4 colds in the year before study and 1.7 during year of study). The authors instructed subjects to record a cold only if symptoms persisted twenty-four hours or longer and believed that the use of this criterion resulted in fewer colds being reported.

H. S. Diehl in the carefully controlled study referred to previously[5] concluded that a combination of papaverine hydrochloride with codeine sulfate, morphine or dihydromorphinone hydrochloride gave "definite improvement" in 74 to 78 per cent of patients. Brewster reported cure in 31 per cent of 22 patients using codeine sulfate and papaverine hydrochloride within twelve hours but in none of 50 patients who started treatment after symptoms had been present twenty-four hours. Diehl stated that the use of sodium bicarbonate, lactose and acetylsalicylic acid was followed by "definite improvement" in 35 to 42 per cent of cases. A significant observation was that as the winter progressed colds tended to become severer, and in May all medicines used resulted in decreased reports of "definite improvement."

TECHNIC OF STUDY

The aim of this investigation of results with antihistaminic drugs for colds was to eliminate as many variables as possible. The study was confined to healthy young men in the military service. Medical attention was rendered before the subject's duties began, eliminating the temptation to needlessly seek medical attention to avoid onerous duties. Personal prejudice was lessened because the physicians prescribing treatment and making follow-up examinations were unaware of what medicines the patients were receiving.

Pharmacists dispensed one of five medicines in order and recorded the necessary protocol in a ledger. Patients were encouraged to report for medical attention as soon as practicable; we noted particularly the effect on local and constitutional symptoms, the development of thick nasal discharge, the duration of this cold compared with the average length of a cold for the patient and the occurrence of undesirable side effects.

It was not practicable to attempt, in this study, to see the patients within the first few hours of a cold; they were instructed to report to the first Sick Call formation following the onset. Thus, patients with transient, misleading symptoms, really not manifestations of a head cold, were less likely to be included in this investigation. Furthermore, patients who seek medical attention for colds usually do not do so within the first few hours after onset of symptoms. However, a controlled study of self medication of colds would be necessary to investigate the efficacy of antihistaminic drugs when taken within the first few hours after the initial symptoms occur.

It was believed that only personal follow-up which continued over seventy-two hours could be relied on for an accurate appraisal of the results of treatment. Therefore patients were seen personally by us on two or three occasions after the initial visit; all patients were seen seventy-two hours after treatment was begun.

Results of Treatment of the Common Cold

	Patients	% No Help	% Slight Improvement	% Moderate Improvement	% Cured in 24 Hrs.
Tripelennamine hydrochloride (oral).....	29	35.9	17.9	33.3	12.9
Chlorothen citrate (oral)	44	30.2	31.8	31.8	18.2
Placebo (oral).....	29	10.3	25.6	35.9	28.2
Tripelennamine hydrochloride (nebulizer),	37	24.4	21.6	27	27
Placebo (nebulizer)...	31	35.5	25.8	12.9	25.8
Total.....	190				

MEDICAMENTS

Five types of treatment were used, dispensed consecutively by the pharmacists. The first patient received tripelennamine hydrochloride in 50 mg. tablets; the second received chlorothen citrate in 25 mg. tablets; the third received a placebo superficially resembling tripelennamine; the fourth received tripelennamine hydrochloride, 0.5 per cent solution, in a plastic nebulizer, and the fifth received a placebo in a nebulizer identical with the one used for tripelennamine.[2]

Oral medicaments were given in a dose of 50 mg. spaced as evenly as possible five times during the day and were given for three days. Nebulizers were also used for three days; patients were instructed by the pharmacists to compress the tube twice for each nostril and to use the nebulizer every three or every four hours.

RESULTS

This investigation of 190 patients with head colds disclosed that cures within twenty-four hours were reported by 16 per cent of patients given antihistaminic drugs orally; 27 per cent of 70 patients receiving placebos (oral and intranasal) also reported cures. Lessened serous nasal discharge was much more common in subjects receiving antihistaminic drugs than in

6. Diehl, H. S.; Baker, A. B., and Cowan, D. W.: Cold Vaccines: Evaluation Based on Controlled Study, J. A. M. A. **111**: 1168 (Sept. 24) 1938.

those receiving placebos. Figure 1 graphically shows the results of this study. It is apparent that patients receiving oral placebos fared at least as well as those taking tripelennamine hydrochloride and chlorothen citrate orally. Patients receiving tripelennamine hydrochloride solution by nebulizer experienced essentially the same results as those receiving oral and intranasal placebos.

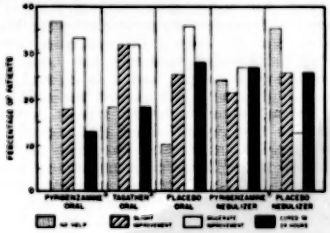


Fig. 1.—Results of various treatments of the common cold.

In an effort to ascertain whether patients receiving medicaments early in the course of their illness were more likely to be cured than those starting treatment later, the results obtained with each form of treatment were broken down into four time blocks. Figure 2 discloses that patients who began treatment within twenty-four hours after the onset of a head cold were about as likely to be among those reporting no help as among the group reporting cures. This was approximately equally true of patients receiving all forms of treatment.

COMMENT

The widespread use of antihistaminic drugs by the public, as well as by physicians, for the cure of the common cold and the paucity of controlled work in this field require confirmatory investigations under carefully controlled conditions.

Many factors involved in an accurate appraisal of the head cold have been eliminated in this investigation, which was along lines set down by H. S. Diehl at the University of Minnesota. Unavoidably, diagnoses and results of treatment had to depend largely on statements by the patients, as in previous investigations referred to in this article.

The concomitant use of controls is necessary because immunity fluctuates and because head colds may be due to different organisms at different times of the year. Consequently, the proportion of cures obtained in December may be different from that obtained in May, as shown by Diehl and associates.

Our observations coincided with those in Brewster's first article:[18] that is, the subjective relief afforded might be attributable to the inhibition of serous discharge by antihistaminic agents, and secondary sinus infection was not prevented once the cold had fully developed. Brewster later reported cures of 18 per cent of patients treated when twenty-four hours had elapsed after initial symptoms. We had to group our patients into different time categories: those treated within the first twenty-four hours after onset of symptoms and then in every additional twenty-four hour period. Therefore, the interesting results of Brewster—the cure of 90 per cent of patients treated with antihistaminic drugs within the first hour of onset of symptoms (and 74 per cent within the first six hours)—could not be investigated in this study. To judge by our results, his predictions—that the incidence of the common cold will be reduced to a startling degree when the antihistaminic drugs are more widely prescribed for early treatment of colds, much as acetylsalicylic acid is at present, and that the antihistaminic agents, if properly and universally used, could reduce the incidence of colds to near the vanishing point—are unlikely to prove accurate. However, in another project the results obtained when persons were given antihistaminic drugs in advance (to take as soon as they experienced the first symptoms of a cold) will be analyzed. Although such work—in which complete dependence is placed on diagnostic and critical abilities of the patient—is far from ideal, it is the only practical method of investigating the effects of extremely early use of antihistaminic drugs. Of course, such a study must be carefully controlled; provided the number of patients is large, perhaps one may assume that the imponderables and the uncontrollable elements will be canceled out.

A noteworthy result of this study is that 27 per cent of persons receiving an oral placebo reported cure within twenty-four hours. This result is similar to Diehl's results with lactose. Therefore, in any study of the effect of treatment on colds the likelihood of spontaneous recovery of about one third of the subjects must be borne in mind before enthusiastic conclusions are reached. At the inception of this study it was considered desirable to include about 400 patients. However, when 190 reports had been analyzed and it was apparent that patients were not benefited, the accumulation of more case reports seemed purposeless.

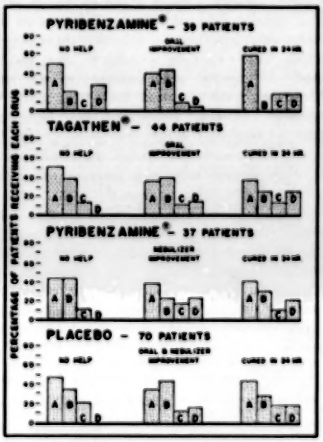


Fig. 2.—Relation of time of start of treatment to results obtained. Group *A* represents patients whose treatment began within twenty-four hours after initial symptoms were noted; group *B*, patients with treatment started between twenty-four and forty-eight hours after initial symptoms; group *C*, patients with treatment started between forty-eight and seventy-two hours after initial symptoms and group *D*, patients with treatment started later than seventy-two hours after initial symptoms.

CONCLUSIONS

1. The necessity of a carefully controlled clinical investigation of treatment of the common cold is again demonstrated; in this investigation 27 per cent of patients receiving inert materials reported cure within twenty-four hours.

2. There was no significant difference in the proportion of cures reported by patients receiving oral antihistaminic drugs and those receiving oral placebos. Furthermore, essentially the same proportion of patients reported no benefit from either type of treatment.

3. Patients receiving antihistaminic drugs within twenty-four hours after symptoms began were as likely to fall into the no effect group as into the cured group.

4. The effect of tripelennamine hydrochloride (pyribenzamine hydrochloride®) administered by nebulizer was essentially the same as the effect of inert materials given orally and intranasally.

5. Although the use of antihistaminic drugs orally and intranasally may decrease the irritating nasal discharge characteristic of the early phase of the common cold, the brief and variable duration of this phase makes a positive conclusion regarding this point difficult.

OBSERVATIONS ON THE CLINICAL USE OF VISAMMIN (KHELLIN)

R. H. ROSENMAN, M.D.
A. P. FISHMAN, M.D.
S. R. KAPLAN, M.D.
H. G. LEVIN, M.D.
and
L. N. KATZ, M.D.
Chicago

The plant, Ammi visnaga Lam, known in Arabic as "Khella," grows wild in Arabia, Egypt and Eastern Mediterranean countries.[1] Of the three crystalline compounds which have been isolated from the fruit of the plant,[2] visammin (also called khellin) has been claimed to have the greatest biologic activity.[3] The pharmacology of this compound has been actively investigated [4] and has recently been summarized.[1] Early investigators [5] have demonstrated the ability of visammin to relax smooth muscle in various organs in situ and in isolated structures such as the ureter. Visammin has been found to be a powerful coronary vasodilator in animals, causing definite increase in coronary blood flow without demonstrable ill effect on the myocardium. It is further characterized by the absence of development of tolerance, by a wide margin of therapeutic safety and by prolonged activity, since its gradual disappearance from blood and tissues results in cumulative effects.[6]

The first report of the use of visammin in angina pectoris was made in 1945.[6] Beneficial results were claimed for all 7 patients to whom the drug was given. Later [7] it was claimed to have benefited 35 of 38 patients with angina pectoris and 8 patients with recent myocardial infarction and persistent precordial pain. Insomnia, dyspepsia and cephalalgia were noted in a few patients. The blood pressure, bleeding and clotting times and the pulse and respiratory rates were unchanged. However, these studies were not well controlled, and the criteria for evaluation were not presented.[8] Recently [9] visammin has been used in cases of bronchial asthma, and it is claimed to have improved vital capacity and reduced the incidence and severity of subsequent asthmatic attacks in 41 of 45 patients. In 1948 Ayad [10] found that with the use of visammin anginal attacks were completely abolished in 14 of 23 patients, while decided improvement was noted in another 5. There were no untoward reactions, despite the necessity of using larger doses than are used in patients with angina pectoris. Finally in 1948 [11] the Egyptian group reported the cumulative results of the use of visammin in angina pectoris. Distinct improvement was claimed in 140 of 250 cases and moderate improvement in another 85; only 25 patients failed to show any benefit. These over-all promising results following the administration of visammin to patients with angina pectoris and bronchial asthma prompted us to investigate its potentialities in a controlled study.

MATERIAL

Patients with the following diseases were studied:

Angina Pectoris (14 Carefully Controlled Cases).—The diagnosis of angina pectoris was based primarily on a well documented typical history of precordial pain on effort or following emotional upset, with relief after rest or glyceryl trinitrate therapy. The majority of these patients have been followed in the Cardiac Outpatient Clinic of Michael Reese Hospital for a number of years, which has permitted the characteristics of their anginal syndromes to be well delineated, particularly during evaluation of other medicaments for relief of anginal pain.[11] In fewer instances the patients were made available for study by private physicians during hospitalization or as outpatients.

Chronic Cor Pulmonale (8 Cases).—Far advanced intrinsic lung disease (long-standing bronchial asthma, emphysema and, occasionally, bronchiectasis) associated with diminished vital capacity, clubbing of the fingers and cyanosis was the common denominator for a diagnosis of chronic cor pulmonale in this group. Right ventricular strain was established in most cases by electrocardiography. Frank congestive heart failure was present in 4 patients.

Acute Bronchial Asthma (21 Cases).—The diagnostic criteria for acute bronchial asthma were a history of repeated attacks of dyspnea not on a cardiac basis and the physical findings of diffuse musical rales, prolonged expiration and characteristic wheezing.

This study was supported by a grant from Smith, Kline and French Laboratories.

Sam Ehrlich Memorial Fellow. (Dr. Rosenman) and Dazian Foundation Fellow (Dr. Fishman).

A preliminary report was made to the American Heart Association, Atlantic City, N. J., June 1949.

From the Cardiovascular Department, Medical Research Institute, Michael Reese Hospital, Chicago. (The department is supported in part by the Michael Reese Research Foundation).

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METHOD OF ADMINISTRATION AND FOLLOW-UP

The Egyptian group [1] has made definite recommendations as to dosage. It has been suggested that because of the bitter taste of the liquid preparation, visammin ordinarily should be given in tablet form. In severe cases of angina or asthma, initial doses may be given intramuscularly and then followed by tablet preparations. The average oral dose is 100 to 300 mg. daily. When the desired effects have been obtained, the dosage may be decreased to a lower maintenance level. In severe cases of asthma 200 to 300 mg. is usually given intramuscularly. This dose is repeated every hour or second hour as necessary and is then followed by daily maintenance with tablets.

TABLE 1.—*Effect of Orally Administered Visammin in a Controlled Group of Patients with Angina Pectoris*

Case, Age	Sex, Color	Diagnosis*	Roentgenogram†	ECG.‡	Visammin Dosage (Mg.) and Duration	Average Number of Glyceryl Trinitrate Tablets Taken Daily			Effects of Treatment			Side Actions
						Without Placebo	With Placebo	With Visammin	Without Placebo	With Placebo	With Visammin	
1 70	M W	A.S.H.D.; auricular fibrillation; S.A.P.	.....	C.C.I.	50 t.i.d. 3 weeks	2-3	....	2-3	Severe angina	None given	No effect reported	Nausea
2 55	F W	A.S.H.D.; hypertension; A.P.	L.V.E.	L.H.S.	50-100 t.i.d. 3 weeks	2-3	....	2-3	Moderately severe angina	None given	No effect reported	None
3 59	M W	A.S.H.D.; early heart failure; hypertension; A.P.	Normal	L.H.S.	50 b.i.d. to t.i.d. 13 weeks	1-6	±6	0	1-6 attacks daily	Same or worse	Excellent; almost free of anginal pain after first week; increased exercise capacity	None
4 45	M W	A.S.H.D.; hypertension; myocardial infarction; A.P.	Normal	Nonspecific	50 q.d. to t.i.d. 13 weeks	3-5	±2	1-3	3-5 attacks daily	Same as with visammin	Moderately improved; attacks of pain reduced by over one-half; exercise capacity unchanged	Somnolence; insomnia
5 56	M W	A.S.H.D.; S.A.P.	L.V.E.	C.C.I.	50-100 t.i.d. 3 weeks	5-10	5-9	0	Pain after walking ¼ block	No effect	Excellent; only few mild attacks; definitely increased exercise capacity	None
6 47	M W	A.S.H.D.; status anginosus	Normal	C.C.I.	100 t.i.d. 6 weeks	Many	Many, with exertion	0	Severe frequent angina	No effect	Excellent; entirely free of pain; died suddenly at home; no precordial pain before death	None
7 70	M W	A.S.H.D.; Old myocardial infarction; A.P.	Normal	C.C.I.	50-100 t.i.d. 6 weeks	Many	Many	0-1	Severe exertional angina	No effect	Excellent; free of pain; decidedly increased exercise capacity	Occasional insomnia
8 40	M W	A.S.H.D.; S.A.P.	Normal	C.C.I.	50-100 t.i.d. 9 weeks	6-10	±10	0-1	Able to walk less than one block without pain	No effect	Excellent; almost free of pain; decidedly increased capacity for exertion	None
9 59	M W	A.S.H.D.; S.A.P.	L.V.E.	C.C.I.	50-100 t.i.d. 12 weeks	6-9	5-9	0-1	Frequent attacks with moderate exertion	No effect	Excellent; almost free of pain; angina only with definite exertion	Nausea
10 35	F W	I.V.S.D.; healed bacterial endocarditis; aortic stenosis; status anginosus	L.V.E.	C.C.I.	100 t.i.d. 10 weeks	Many	0	0-1	Severe angina on even mild exertion	Remained free of pain §	Excellent; status anginosus ceased after second dose; almost free of pain despite normal activity; decidedly increased exercise capacity	None
11 68	F W	A.S.H.D.; S.A.P. with status anginosus	L.V.E.	C.C.I.	50 q.i.d. 8 weeks	8-11	0 for 2 weeks then ±9	0	Severe constant angina even at rest	Free of pain for 2 weeks, then same as before §	Excellent; ambulatory; able to walk 1 block without pain; almost free of pain	None
12 60	F W	A.S.H.D.; A.P. with frequent attacks of pain	L.V.E.	C.C.I.	50-100 t.i.d. 12 weeks	None	None	0	Frequent pain in left arm and hand, with stiffness of fingers	No effect	Excellent; entirely free of pain; former stiffness of fingers disappeared; able to use hand normally	None
13 62	M W	A.S.H.D.; hypertension; moderately S.A.P.	L.V.E.	Normal	50 t.i.d. 4 weeks	3-4	0	0	Moderately severe angina	Same as with visammin	Excellent; completely free of pain despite intense emotional anxiety; unchanged exercise capacity	None
14 66	M N	A.S.H.D.; S.A.P. with status anginosus	Normal	C.C.I.	50-100 b.i.d. to t.i.d. 40 weeks	±25	±25	0-4	Frequent attacks of pain with angina at rest	No effect	Excellent; long periods without pain; greatly increased activity permitted	Nausea; constipation

* A.S.H.D. = arteriosclerotic heart disease; I.V.S.D. = interventricular septal defect; A.P. = angina pectoris, and S.A.P. = severe angina pectoris.
† L.V.E. = left ventricular enlargement.
‡ C.C.I. = chronic coronary insufficiency; L.H.S. = left heart strain.
§ Remained free of pain for varying periods while on placebo, after period of treatment with visammin.

In this study visammin [11a] was administered to the patients with angina pectoris and chronic cor pulmonale in the form of sugar-coated 50 mg. tablets, after meals. All other drugs were discontinued except glyceryl trinitrate, which was taken as necessary for the relief of precordial pain. Coated placebo tablets, identical in color, taste, shape and appearance with the drug-containing tablets were used alternately. In most instances there was an initial period of observation with placebo tablets as a means of evaluating the patient's psychic response to a new drug. The patients with acute attacks of bronchial asthma received a single injection of 100 to 200 mg. of visammin intramuscularly, without advance notice, in the emergency room during the acute episode. The drug was administered in concentration of 50 mg. per cubic centimeter.

TABLE 2.—*Results of Visammin Therapy in a Case of Severe Angina Pectoris*

Dates	Visammin Dosage (Mg.)	Daily No. of Glyceryl Trinitrate Tablets Taken	Results
Control	None	About 25	Walks less than ½ block; severe pain with frequent status anginosus; drawn facies
11/1-11/6	100 t.i.d.	About 10	Significantly improved subjectively after first few days of treatment
11/8-11/21	150 t.i.d.	8-9	Attacks much milder and of much shorter duration
11/21-11/29	Placebo	21	Frequent severe pain preventing any activity after the first 24 hours
11/29-12/13	150 t.i.d.	4-5	Attacks much milder
12/13-12/27	100 t.i.d.	4-5	Walks 2 blocks without pain; no glyceryl trinitrate for 2 days
12/28-1/3	Placebo	20-30	Cannot understand why he feels so badly; frequent angina after first day
1/3-1/31	100 t.i.d.	2-3	12 days without glyceryl trinitrate; walks 2 blocks without pain
2/1-3/1	100 t.i.d.	0-5	"I feel better than in many years"
3/1-3/13	100 t.i.d.	0-2	Pain only rarely and for brief intervals
3/13-3/23	None	20-24	Almost constant angina after first day; confined to bed with pain
3/23-4/3	100 t.i.d.	0-1	Dramatically improved subjectively
4/3-4/20	50 t.i.d.	0-2	Continued improved status; walks 2 blocks or more
4/21-4/25	None	25+	Almost constant pain after first 24 hours without treatment
4/25-5/28	100 t.i.d.	0	No glyceryl trinitrate for 3 weeks; then ran out of medicine; frequent severe pain followed
5/28-6/10	Placebo	20+	Continued to be incapacitated because of angina
6/10-6/24	50 q.i.d.	3	Much improved after 2 days; able to exert himself significantly more; feels like a "new man"
6/25-7/25	50 t.i.d.	0-1	Almost completely relieved of pain

All patients being given the drug in tablet form were seen at weekly or biweekly intervals. Physical examination was performed at each visit and, on occasion, electrocardiograms and vital capacity determinations were obtained. Of necessity, questions as to the response to treatment were posed, but whenever possible, and particularly during the first few weeks of treatment, statements were elicited as to the effects the patient experienced while taking the medicament. In addition to a deliberate attempt by the observers to avoid suggestion of therapeutic gain, impartial physicians not associated with the study were allowed to interview the patients during the period of observations, and their opinions were included in the final clinical evaluation of each case.

CRITERIA FOR IMPROVEMENT

In the evaluation of the improvement of patients with angina pectoris, the criteria used were decreased number and severity of attacks, increased exercise capacity, decreased number of required glyceryl trinitrate tablets and increased general well-being as reported by the patient. In the patients with chronic cor pulmonale, diminution in respiratory symptoms, increased exercise capacity, increased general well-being as reported by the patient and lessening of cyanosis and dyspnea on physical examination were the guides in the judgment of improvement. In the patients with acute bronchial asthma, the criteria were decreased in respiratory distress and wheezing and diminution in rales in the lungs.

RESULTS

Angina Pectoris.—Improvement of the cardiac status was definite in 11 of the 14 cases of angina pectoris (table 1). Moderate improvement occurred in another case, but in the remaining 2 no benefit was obtained. In 4 instances the improvement persisted for a time after administration of the drug had been discontinued; this is attributable to the cumulative effects of the drug. In a few patients in this group no placebo could be given because of the severity of the illness, but they are included because of the dramatic unequivocal response to visammin. Side action occurred in 5 patients and consisted of nausea in 3 and insomnia in 2. Nausea prevented further use of the drug in 1 case.

A typical example of an excellent result was seen in the case of W. M. (case 14, table 1), a 66 year old Negro man with long-standing severe angina pectoris. He had been observed regularly in the Cardiac Clinic since 1942. His blood pressure was 145 systolic and 84 diastolic, and his pulse rate was 75. The heart was normal in size, and there were no murmurs. The electrocardiogram revealed chronic coronary insufficiency. Angina had been increasingly severe, and, during previous studies,[11] he was known to take 20 to 40 glyceryl trinitrate tablets daily. Status anginosus had occurred frequently and had led to hospitalization for resection of the cardiac sympathetic nerves. While this patient was awaiting surgery, our initial supply of visammin became available. His response to visammin was rapid and progressive. Not only was he spared surgical intervention but he was able to extend his activities. The number of daily glyceryl trinitrate tablets required dropped precipitously. His appetite improved; his despairing attitude resolved, and he became alert. He reported cyclic recurrence of severe pain during the many alternate courses of placebos. Throughout the period of observation the blood pressure and pulse rate were unchanged. Side actions consisted of constipation and nausea on the larger dosage schedules. Table 2 gives the details of the case.

Visammin was administered to 16 additional patients with angina pectoris, but their subsequent course could not be adequately evaluated. In 9 of these cases untoward side action occurred. One patient died of concomitant renal disease, and another died suddenly while receiving a maintenance dose of visammin. In this last case there were no premonitory symptoms and no precordial pain associated with the terminal episode;

11a. In almost all reports, visammin has been used to designate a mixture containing 70 to 80 per cent visammin and 20 to 30 per cent visnagin. This mixture has about 66 per cent of the biologic activity of pure visammin.[9] A similar preparation (eskel[9]) was used in this study, and was supplied by Smith, Kline and French Laboratories, Philadelphia. The latter have recently informed us that lately developed, more precise methods of assay indicate that the 50 mg. tablets used in this and prior studies actually contain 40 mg. of active material and that 100 mg. ampuls contain only 70 mg. of active material.

permission for necropsy was not granted. Toxic reactions occurred in 16 of the total 30 cases studied and constituted a serious factor which limited the use of visammin. Of the 10 cases in which administration was stopped because of the toxic reactions, nausea relief of dyspnea, wheezing and other respiratory distress, decreased cyanosis, increased exercise tolerance and greatly increased sense of well-being. The edema of 3 patients with heart failure disappeared during treatment with visammin. The significance of this

TABLE 3.—*Effect of Visammin on Chronic Cor Pulmonale*

Case	Age	Sex	Color	Clinical Diagnoses *	Physical Manifestations	Effect of Other Therapy and Placebo	Visammin Dosage (Mg.)	Duration	Result After Visammin Administration
1	64	M	W	B.A.; E.; C.C.P.	Constant wheezing, rales, clubbing, hepatomegaly	No effect from placebo	50 t.i.d. to 100 q.i.d.	10 weeks	Excellent; no wheezes, cough, or other respiratory distress; few rales; nausea on larger dosage
2	74	M	W	B.A.; C.H.F.; E.; C.C.P.	Wheezing, emphysema, peripheral edema, cyanosis	Poor response to digitalis and diuretics	100 t.i.d.	5 days	Excellent; no wheezing; rapid disappearance of edema
3	52	M	W	B.A.; A.S.H.D.; C.H.F.	Wheezing, cough, dyspnea, peripheral edema	Poor response to digitalis and diuretics	100 t.i.d.	6 days	Excellent; dramatic relief of respiratory distress, with completely normal respiration
4	65	M	W	B.A.; E.; C.C.P.	Wheezing, clubbing, constant respiratory distress	Poor response to epinephrine, and other drugs	100 t.i.d.	16 days	Excellent; dramatic relief of respiratory symptoms; no wheezing
5	19	M	N	B.A.; E.; C.C.P.	Wheezing, cough, clubbing, cyanosis	No response to placebo; relieved by frequent epinephrine spray	100 t.i.d.	3 weeks	Excellent; found epinephrine spray unnecessary; no wheezing or coughing
6	60	M	W	B.A.; C.H.F.; E.; C.C.P.	Diffuse wheezes and rales, clubbing, cyanosis, peripheral edema, polycythemia	No effect from placebo	100 t.i.d.	4 weeks	Excellent; dramatic improvement with little respiratory distress; definite lessening of cyanosis; sudden coma and death 5 days after treatment stopped
7	60	M	W	B.A.; A.S.H.D.; E.; C.H.F.	Wheezing, weakness, peripheral edema, rales	Poor response to digitalis and diuretics	100 t.i.d.	16 days	Excellent; edema rapidly disappeared; definite improvement in respiration with absence of wheezes and dyspnea
8	50	F	W	B.A.; Bronchiectasis; E.; C.C.P.	Wheezing, cough, dyspnea, rales, clubbing, cyanosis polycythemia	Poor response to placebo and epinephrine	50-100 t.i.d.	8 weeks	Excellent; dramatic relief from cough, respiratory distress and cyanosis; definite increase in exercise capacity; no coughing; weight gain

* B.A. = bronchial asthma; A.S.H.D. = arteriosclerotic heart disease; E. = emphysema; C.H.F. = congestive heart failure; C.C.P. = chronic cor pulmonale.

TABLE 4.—*Effect of Single Intramuscular Injections of Visammin on Acute Attacks of Bronchial Asthma*

Case	Age	Duration of Asthma (Years)	Severity of Present Attack	Intramuscular Dose of Visammin (Mg.)	Degree of Improvement	Time of Onset of Improvement (Min.)	Duration of Improvement
1	23	..	Mod. Severe	200	Marked	5	About 1 hr.
2	25	2	Mod. Severe	200	Slight	..	.....
3	30	9	Mod. Severe	200	None	..	.....
4	42	6	Mod. Severe	200	Marked	5	About 45 min.
5	32	25	Mod. Severe	200	None	..	.....
6	60	..	Mild	100	Marked	4	About 1 hr.
7	44	14	Moderate	200	Moderate	15	1 hr.
8	50	..	Moderate	200	None	..	.....
9	21	..	Moderate	150	None	..	.....
10	..	4	Moderate	200	Marked	5	About 1 hr.
11	..	..	Moderate	200	Moderate	5	10 min.
12	33	27	Moderate	200	Marked	5	About 20 min.
13	32	..	Moderate	100	None	..	.....
14	60	..	Severe	200	Moderate	15	2 hr.
15	56	..	Mild	100	Marked	3	1 hr.
16	31	4	Moderate	200	Slight	..	.....
17	21	..	Moderate	200	None	..	.....
18	56	..	Mild	200	Marked	30	2 hr.
19	23	..	Mild	200	None	..	.....
20	25	..	Moderate	200	Marked	5	45 min.
21	22	5	Severe	200	Marked	5	About 1 hr.

occurred in 8 (severe in 4), emesis in 1, constipation in 3, diarrhea in 1, dizziness in 4, somnolence in 1, vesiculopapular eruption with pruritus in 1 and urticaria in 1.

Chronic Cor Pulmonale.—In 8 patients with chronic cor pulmonale striking improvement was noted (table 3). The blood pressures and pulse rates were unaffected. The improvement was characterized by observation is not known. Toxic manifestations were observed in 1 of the 8 cases. Typical of an excellent response was that observed in D. D. (case 8, table 3), a 50 year old white woman with bronchial asthma, bronchiectasis, severe emphysema and chronic cor pulmonale. Her activity was extremely limited because of dyspnea. Cyanosis, clubbing of the fingers and toes and diffuse wheezes and musical rales over both lung

fields were present. Only slight relief had followed postural drainage and bronchodilator therapy. Table 5 depicts the striking results of visammin therapy in this case. The vital capacity (1.2 L.) remained unchanged throughout, and there were no reactions.

Acute Bronchial Asthma.—There was decided benefit to complete and prompt relief of wheezing and rales

TABLE 5.—*Results of Visammin Therapy in a Case of Chronic Cor Pulmonale, Bronchial Asthma, Bronchiectasis and Emphysema*

Dates (1949)	Visammin Dosage (Mg.)	Results
2/16-3/7	Placebo	No results; remained dyspneic and cyanotic
3/7-3/14	50 t.i.d.	No results for 4 days, then dramatic relief of wheezing and coughing; gaining weight; able to walk without dyspnea for 2 blocks; auscultation reveals complete absence of wheezes, but moderate number of rales persist
3/14-3/23	50 t.i.d.	Continued relief; "my color is so much pinker"; no wheezes heard; only a few rales present; for first time in years, patient not awakened by coughing at 4 a. m.
3/23-3/30	100 t.i.d.	Continued excellent relief; only few rales heard; cyanosis almost completely disappeared
3/31-4/15	50 t.i.d.	Continued remarkable relief
4/15 and on	None	Recurrence of respiratory distress and cyanosis after 24 hours

in 9 of the 21 patients with bronchial asthma, moderate relief in 3 and no observed response in 9 (table 4). Where improvement occurred, it was usually of only short duration. Typical of an excellent response was that observed in a 22 year old Negro man (case 21, table 4) who was given 200 mg. of visammin intramuscularly during a severe attack of asthma. Within five minutes he was able to sit up and was definitely relieved. The chest was entirely clear of wheezes and rales thirty minutes later, and severe wheezing which recurred one hour later was again relieved promptly but temporarily by another injection of visammin. There were no untoward reactions from the treatment. The blood pressure and pulse rate were unchanged except in the few instances in which the rapid pulse rate present during the attack slowed as the respiratory distress subsided. Local pain at the site of injection occurred in 1 patient.

COMMENT

The evaluation of the efficacy of a drug in the treatment of a disease such as angina pectoris, with its spontaneous natural cyclic variations,[12] is subject to many pitfalls. The attempt has been made to avoid any error in judgment during the analysis[13]: (1) by the administration of placebos alternately with the active drug; (2) by a comparison of the effects observed when no drug was given with those observed during administration of placebos; (3) by the use of patients who had been observed for several years, during which time the characteristics of their anginal syndrome had been well delineated, and (4) by giving considerable weight to the frequency of anginal attacks and to the number of glyceryl trinitrate tablets taken. Our conclusions as to the value of visammin in angina pectoris are based primarily on the dramatic results obtained in the patients with unequivocal severe attacks.

The composite results of therapy with visammin in the patients studied are depicted in table 6. The drug has been found to be of definite value in relieving the distress of a large number of patients with angina pectoris and chronic cor pulmonale. The results were often dramatic. In chronic cor pulmonale significant clinical improvement in respiration, exercise capacity, color and general well-being was noted in all cases. The mechanism of the action of the drug in these cases is probably partly related to its bronchodilating properties. It is worthy of emphasis that 3 patients with chronic cor pulmonale associated with congestive heart failure showed improvement in the peripheral signs of heart failure. Consequently, heart failure in chronic cor pulmonale is not a contraindication to visammin therapy but actually appears to be a circumstance in which visammin might be beneficial. The mechanism of its action may be either on the bronchi or directly on the myocardium or both. This is being investigated further.

The beneficial action of visammin in patients with angina pectoris varies in degree. In a significant number, after oral administration of visammin, there was moderate to decided improvement with almost complete freedom from anginal pain, despite subsequent increase in activity. This was best seen in patients with severe angina who required a large number of glyceryl trinitrate tablets daily. Frequently, freedom from angina persisted for as long as two weeks after administration of visammin was stopped. This is apparently due to the cumulative effects of the drug. Some patients, particularly those with mild angina, showed no improvement with visammin, and others experienced similar relief while receiving the placebos.

Far less impressive results were obtained in acute attacks of bronchial asthma treated with parenterally

TABLE 6.—*Summary of Experience with Visammin*

Diagnosis	No. of Patients	No. in Which Evaluation Was Possible	Side Actions: Number	Side Actions: No. in Which Drug Had to Be Stopped	Improvement: None to Slight	Improvement: Moderate	Improvement: Definite	Dosage (Mg.)
Angina pectoris *	14	14	5	1	2	1	11	50-100 b.i.d. to t.i.d.
Angina pectoris †	16	9	11	9	..	3	6	50-100 b.i.d. to t.i.d.
Acute bronchial asthma	21	21	0	0	9	3	9	100-300 i.m.‡
Chronic cor pulmonale	8	8	1	0	0	0	8	50-100 b.i.d. to t.i.d.

* Series of patients in which adequate evaluation was possible.
† Series of patients in which only partial evaluation was possible.
‡ Single intramuscular injection during acute asthmatic episode.

administered visammin. Its bronchodilating properties were demonstrated by the prompt, and occasionally complete, remission of symptoms and signs in a few patients following intramuscular injection. Unfortunately, in such instances, the beneficial action was usually only of short duration. Thus, visammin by parenteral injection may be of value in severe cases of bronchial asthma which respond poorly to other therapeutic measures. The effect of the drug administered orally to patients with bronchial asthma was not studied at this time.

12. Evans, W., and Hoyle, C.: The Comparative Value of Drugs Used in the Continuous Treatment of Angina Pectoris, Quart. J. Med. 2: 311, 1933.

13. We have specifically attempted to avoid the administration of the drug with an "evangelistic" attitude, and we have attempted to have the patients spontaneously relate their experiences while taking both visammin and placebos. Despite these precautions we feel that one is justified in claiming beneficial results in the treatment of angina pectoris only when there is a dramatic decrease in the incidence and severity of pain with drug administration and a decided increase in number of attacks and their severity with placebo administration or when no drug is given. While similar precautions apply to acute bronchial asthma and chronic cor pulmonale, the problem in these conditions is simpler since more objective changes can be observed on which one may base judgment.

At the time of writing the clinical value of visammin is limited by a high incidence of unpleasant side actions, such as insomnia, somnolence, light-headedness, dizziness, urticaria, constipation and, particularly, severe nausea (table 6). The present preparations of visammin, imported from Egypt, are known to contain various unidentified ingredients in small quantities in addition to the crystalline substance. Whether these side actions are due to the active substance itself, or to the impurities, will be known only when the latter are eliminated. The incidence of untoward reactions further appears to increase with larger and repeated doses. This is probably due to the cumulative effect.

Two patients with angina pectoris who were almost completely relieved while taking visammin apparently suffered myocardial infarction and death. Only vague premonitory symptoms preceded apparent infarction. This sequence of events poses the question of whether the increased activity following relief of pain led to the terminal accident or whether these patients died in the natural course of the affliction. A similar problem is posed by the patient with chronic cor pulmonale who died unexpectedly.

In brief, then, our study indicates that visammin is a useful drug in angina pectoris, in chronic cor pulmonale and, to a lesser extent, in acute bronchial asthma. Further studies are needed to more clearly define dosage and route of administration, to delineate indication and contraindication and to unravel the mechanisms of its action, especially its effect on the contractility of the heart in congestive heart failure. One of its serious disadvantages is the development of side actions, particularly with larger dosage, which limits its further use. Whether these untoward effects are due to the drug itself or to impurities remains to be determined.

SUMMARY

1. The action of visammin (khellin), a preparation of active principles obtained from the fruit of the plant, Ammi visnaga Lam, has been evaluated in cases of angina pectoris, chronic cor pulmonale and acute bronchial asthma under controlled circumstances. Dosage, mechanisms of action, toxicity and therapeutic efficacy are discussed.

2. Of 14 patients with angina pectoris treated with visammin, 100 to 200 mg. orally each day, a good response was obtained in 11, moderate improvement in 1 and no effect in 2.

3. Each of 8 patients with chronic cor pulmonale showed distinct improvement in respiratory mechanics, color, exercise capacity and dyspnea following the daily oral administration of 100 to 300 mg. of visammin.

4. Single intramuscular injections of 200 mg. of visammin resulted in significant improvement in 9 of 21 patients with acute bronchial asthma. The response was prompt, occurring within five or ten minutes, and was often dramatic but usually short-lived.

5. Untoward reactions to visammin were observed in 17 cases. These were nausea, constipation, light-headedness, dizziness, diarrhea, somnolence, insomnia, urticaria and dermatitis. The incidence of these reactions increased with larger doses.

6. The results indicate that visammin is a drug with definite therapeutic effects in angina pectoris, chronic cor pulmonale and, possibly, in acute bronchial asthma. Further studies of this drug are needed to more clearly define its clinical usefulness, its contraindications, its toxicity and the mechanisms of its action.

ADDENDUM

Since this report was submitted, another clinical study has appeared by Dewar and Grimson.[14] Favorable results were obtained in preventing angina of effort and the electrocardiographic changes that may accompany it in 12 patients tested.

THE CLINICAL APPROACH TO ALCOHOLISM

LESLIE A. OSBORN, M.D.
Buffalo

ALCOHOLISM AS A DISEASE

A lawyer and his wife were watching the sun set across the Gulf of Mexico. He had had a busy practice that had gradually declined as his alcoholism had become more severe. During this interlude when he was abstaining from alcohol, his wife was feeling a sense of relief. As she watched the rich warm colors of the sunset, she said, "Doesn't it give you peaceful thoughts?" Almost angrily he turned on her: "I haven't had a peaceful thought in years!"

Those who enjoy good health often admire the patience with which chronic invalids bear, day in and day out, handicaps and suffering which well persons have been spared. It is difficult to imagine what life must be like to them, and often this leads to a superficiality in dealing with invalids which embitters them more than their direct distress. It is significant with respect to alcoholism that the fellow-feeling of those who have been addicted to it has demonstrated, through Alcoholics Anonymous, how limited the understanding of the excessive drinker has been. It is through this same means that recognition of alcoholism as a disease has been stressed. Disease is the concern of the members of the medical profession, and physicians generally cannot be too happy that their recognition of a disease as such has been somewhat tardy. Failure to recognize a disease means that one does not learn how to investigate its causes or discover how best it may be treated.

The definition of alcoholism as a disease brings it within the scope of clinical medicine and calls for the development of diagnostic and therapeutic methods. Before proceeding to discuss these, however, one may fairly ask whether the designation of alcoholism as a disease is literal or metaphoric. Is one dealing with sick persons, or is one using the constructive attitude which he has toward the sick to gain similar understanding for the alcoholic addict?

Perhaps if I hyphenate the word and make it dis-ease, the common indicators of illness will quickly be recognized. In health one enjoys an ease of feeling, or euphoria. One takes his teeth for granted until they start aching; one knows he is not well when the discomfort of cough, headache or other dis-ease draws attention to his health. Surely then the lawyer who

14. Dewar, H. A., and Grimson, T. A.: Khellin in the Treatment of Angina of Effort, Brit. Heart J. 12:54, 1950.

Professor and Head of the Department of Psychiatry, University of Buffalo School of Medicine.

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exclaims: "I have not had a peaceful thought in years!" is indicating the dis-ease from which he suffers.

Another way in which disease manifests itself is by impaired function. If one sprains an ankle, he quickly finds that it is no longer able to work for him as it had been until the time of injury. The dys-function which had reduced the lawyer from his previous level of professional function and impaired severely the most important personal relationships in his life is readily apparent. Perhaps physicians have been little aware of these aspects of the disease because another characteristic of some diseases has overshadowed them: they implicate others and hence bring in a public health problem. While one is caring for the patient with tuberculosis, he also is aware that others could become involved. Because one has worked for the patient and learned how his illness comes about, he is now able to use effective preventive measures—and the chief ones are carried out by the patients themselves. One may say that effective public health measures have been discovered because he has considered the sick person first, and in doing research in order to treat him one has learned how others may be protected. Whenever the physician finds himself against the sick person in order to "protect" the public interest, he cuts off at its source the study which will tell him what the actual danger is. The educational centers of today are indications that at last physicians are mobilizing on a significant scale to encourage a constructive attitude toward those who are ill in this as yet little understood way. Medical history relates that out of a willingness to help those who are afflicted comes a quest for the "know-how" to help them, and out of that comes not only help for them but real public health. A community is to be congratulated for its willingness to assist these sick citizens; whatever is invested in time, effort and funds will be fully repaid in the lives of many with whom trained personnel will work directly, and still more who will benefit indirectly. I know little about economics, but twenty years of medical practice have taught me this; health pays, and illness is always costly. Any money invested in health brings rich dividends, the most important of which are in human values.

THE NATURE OF THE DISEASE

"Isms" are much in evidence these days, but since alcoholism ends with "ism" I must consider for a moment what that suggests. Alcoholism may be compared with plumbism, or lead poisoning. When lead enters the system, it produces various harmful effects on the body; for example, anemia and nerve paralyses may result. The dosage of lead, of course, has something to do with the extent of the damage. In certain dosages, over a period of time, it is known that alcohol may have harmful effects on the body. The study of alcoholism must then include what effects there are on digestion, the nervous system and the li[illegible] only will direct effects of alcohol be found; there will be effects from the nutritional disturbance that occurs both because solid foods are not eaten during drinking and because disruptions of social life occur; and the mode of life, self care and care by others are likely to be disturbed enough to produce other organic effects.

There is nothing recent in the study of these conditions; medically it has always been recognized that alcoholism could produce disease, and the diseases produced have been well investigated. Many advances in treatment have been made, so that the detrimental effects of excessive and prolonged ingestion of alcohol can be dealt with much more effectively today than ever before. The newer concept is not that alcoholism produces disease; it is that alcoholism is a disease, to which these pathologic tissue changes are secondary.

It is at this point that one must recognize a difference between alcoholism and plumbism. Lead usually enters the human body in an accidental or occupational manner: painters or those working with storage batteries may be exposed to lead if proper precautions are not taken. Anyone discovering that such a risk exists promptly takes measures to avoid it. With alcoholism the problem has an added factor; persons ingest it although they know that in the quantities used it will prove harmful to them. There is little reason to question why plumbism occurs once the source of the tissue poisoning is discovered; but with alcoholism one has a big question to ask when he inquires why alcohol is used to excess. Once it is in the system, one can determine on a chemical basis how alcohol affects tissues and their function; this effect is likely to depend on the pharmacologic effects of alcohol rather than on the reason why it was taken. When one studies only the effects and tries to offset them without regard to the likelihood that causes are still operative and unchecked, he is far from the kind of understanding necessary for treatment and prevention.

REASON FOR EXCESSIVE DRINKING

In health one tends to have not only ease but also balance in his living. One eats—but not to excess; if he does, then the unhealthy result is obesity. One exercises—but again, when one has had enough he quits. There is a self regulation involved that keeps activities in reasonable bounds. Too much of one activity may mean too little of another; all work and no play makes Jack a dull boy. A balanced life, like a balanced diet, has many ingredients. It is seldom difficult to discern that the life of the excessive drinker is lacking in healthy balance. One is often inclined to ascribe this to the alcohol itself, with its action on the nervous system comparable to that of an anesthetic—on the highest or cerebral levels first, progressively working down to the vital centers in the medulla if enough is taken. Still, this is explaining the phenomenon in terms of itself. Certainly, a vicious cycle is set up when excessive drinking encroaches more and more on the personal, family, social and professional life of the patient. However, if it is assumed that alcohol starts the cycle, one is then beset with the need to explain why it has this effect in one person and not in another and to attempt to determine the point at which one person may be labeled a heavy drinker and another an alcoholic addict. From a clinical point of view, I wonder whether this has great usefulness; perhaps in preoccupation with this factor one may overlook other considerations with much more promising therapeutic outcome.

One is justified in speaking of alcoholism as a disease, in the sense of internal medicine, for one refers to the tissue changes produced when alcohol is ingested in toxic dosage. With regard to the more difficult problem of motivation, it is more correct to say that alcoholism is a symptom. Certainly, symptoms can be exceedingly troublesome; but in themselves they are not diseases so much as they are indications that health is impaired. Headache, cough and fever have in the past been con-

sidered as diseases, and the logical treatment with this level of diagnosis is suppression of symptoms. I have known of a patient who was given pills for headache for eighteen months, until it became unmistakably evident that the headache arose from a brain tumor. Patients who are given cough syrup but who happen to have tuberculosis are not helped thereby: in fact, the serious risk of such superficial "treatment" is that the underlying condition is missed and goes on unchecked. Physicians do not group together all the patients who cough as "coughers"; the patients have one symptom in common, but a textbook on differential diagnosis would list dozens—even hundreds—of diseases of which cough may be a symptom. When one considers why alcohol is taken to excess, he finds not one answer but many. The study quickly becomes related to the individual with whom one is dealing.

It is difficult to fit everyone with a tailor-made suit; even in a large city there would be nowhere near enough tailors to complete the project. The problem is met by trying to have ready-made suits of varying sizes and shapes that approximately fit each person and then by tailor-making the alterations. Attempts at classification of alcoholic addicts represent a necessary effort to simplify a large problem; for no two persons in the world are identical, and when one speaks of studying each person individually he is almost forced to bring to the task some preformed conceptions. One should be careful what these are. Modern psychiatry has shown that centuries of effort to understand psychiatric patients have left clinicians baffled largely because attempts were being made to describe persons in a static way—a description of them as they appeared in cross section, rather than an attempt to understand them in a living, growing, changing way as they live their lives in an everchanging environment. To study a person as one sees him at a given moment is like taking a still picture of an airplane in flight or watching one scene in the middle of a movie without knowing what has preceded it. In further efforts of the physician to understand the patients he is trying to help, I hope he will learn about them as persons rather than try to fit them into systems of classification that must be too limited for the great variety of human make-up and experience and that is of little practical help in treatment.

I shall avoid the temptation to devote my clinical effort to categorizing and again consider the lawyer who had not had a peaceful thought in years. He gives one a glimpse of an inner discomfort that must be hard to bear. Had he said that he had had weeks and months of pain, one would not be surprised to find that he tried to do something to relieve the pain. I once got a toothache suddenly while interviewing a patient. I tried to ignore it and carry on, but the pain just would not be ignored: it called imperatively for action. I found it necessary to interrupt the interview and seek the dentist. Certainly that inner discomfort was a symptom; I might have gone to the dentist and had the tooth fixed before it ached. But it was the symptom, not its cause, of which I was strongly made aware.

A toothache fairly directly informs one what needs to be done to restore comfort. Going to the dentist is an efficient way of dealing with such inner distress. Had there not been a dentist available, the distress would still have persisted. If nothing else, it would have impelled me to walk the floor; and perhaps I might have been observed taking some acetylsalicylic acid, hoping thereby to suppress the symptom. That is not an efficient way of dealing with toothache, and when the effect of the drug wore off I might have had to take more. An observer, who could not have known unless I told him that I had pain, might have thought I was taking the drug because I liked it and warned me that I might become addicted to this compound. If instead of taking acetylsalicylic acid I took a sedative, such as codeine or morphine, which had a stronger effect but also some undesirable side effects, these side effects in time might have become more detrimental to my health than the original decayed tooth. If among these side effects the drug taken also happened to increase the local disease state, then my plight would be that much the worse.

It is apparent, then, that the lawyer had inner discomfort and that it had persisted; like the toothache, it would not be ignored. Perhaps he had not found someone corresponding to the dentist who could get at and eliminate the primary disturbance and, lacking this efficient solution, had had to resort to something for relief. Perhaps alcohol in its narcotic effect lessened the immediate distress. The first stage of the action of any narcotic or anesthetic agent is the production of analgesia—a reduction of the sense of pain. Beyond that, it produces a paralysis of higher brain levels and hence a release of lower functions, uncontrolled by the higher; then the stage of excitement begins. If still more is taken, coma or unconsciousness is produced. The need to continue such a temporizing solution is not hard to see, if the inner discomfort is severe and persistent, and sometimes the patient himself recognizes the futility and tries to check it; but if his statement of inner unrest is accepted, something fundamental has to be done before health and ease are restored. The physician is now confronted with the need to determine just what the inner ill-at-easeness may be that can call for such pseudorelief. The problem is the more urgent because alcohol does have side effects which in many instances may intensify the original disturbance by damaging personality assets and often alienating the support of those who cannot understand why the inner unrest exists—or who do not even recognize that it is there.

ORIGIN OF THE DIS-EASE

The inner distress has been compared to a pain, but it is not that. A toothache at least informs the victim of the source of his troubles; but pain is not the only sensation that may be hard to bear. Everyone has known the sensation of fear, of apprehension, of "intolerable suspense," in relation to personal situations. When any of these is felt, one is aware of being most uncomfortable. However, this has not been mystifying because the situation occasioning such a reaction is known. Even so, with such uncomfortable feelings it is hard for one to stay still. Expectant fathers think they have a much harder time than do their wives. If one recalls his feelings in some tense situation in the past, he will know how ill at ease he felt; then let him go one step further and realize that sometimes just such feelings are experienced without any realization of their origin, and he will have some awareness of the nature of anxiety. If anxiety is sustained and its source cannot be traced, the person experiences not merely the distress but the helplessness that comes from dealing with an unknown rather than a known danger.

Aesop told a fable of the lion and the gnat. The lion roared his defiance to the jungle, and the bear accepted the challenge, only to rue his decision quickly. Then the elephant came, and his bulk and strength prevailed not against the mighty lion. The tiger ventured into the fray; tough though the battle was, the lion emerged victorious. At this the other animals held back, and the lion roared his defiance to any living creature. Then a tiny gnat flew into the lion's nostril, and the mighty animal roared to a different tune; he was rendered helpless by an insignificant gnat because he could not get at it. The patient with anxiety is not afraid; he often has shown great courage in facing difficulties, of which a life study will usually show that he has had plenty; but now he finds himself the victim of something he cannot get at. His distressed reaction to this force, invisible from the outside and inaccessible to him, seems irrational to others. Tiring of telling them that he is bothered—because they all assume that the only annoyances one can have are due to outside forces—he has to do the best he can.

Anxiety is not so much an alarm as a false alarm. The fire department can rush off to extinguish a fire, but when a call comes and there is no one able to locate a fire, the upset is great. When there is a false alarm, someone must have turned it in. When a patient with anxiety is told that there is nothing wrong with him, that it is just his imagination, he is being given as little help as is the fire-department when it is told that false alarms do not matter. The sense of unknown danger is more disturbing than that of known danger.

ORIGIN OF THE DANGER

When an acquaintance appears bothered, one is apt to ask "What are you worried about?" Behind this is the assumption that men are like machines, reacting according to the way they are stimulated. Certainly, one responds with concern proportionate to the seriousness of a situation that confronts him; a physician's concern must match the severity of the illness with which he is dealing. But it is a mistake to assume that all emotional reactions are immediately reactive.

Emotions are much more complex than that, and many times a person has decidedly mixed feelings. Present feelings may relate to past rather than present events, or present situations may merely serve to touch off the memory of earlier troubles in one's life. When a primitive man became angry with another, he could deal with his angry feelings by fighting and killing the other man. In organized society, the greater danger to a man in a fight might be not so much that he would be hurt as that he would kill the opponent, thus running afoul of a much greater danger. One's own impulses can represent dangers if they are of a nature whose expression might be damaging to others or to one's self, and often one's own feelings are much harder to deal with than are other persons. Strong feelings of different sorts may conflict within, and it is from such conflict that anxiety may arise. When one adds to this that such conflicts sometimes can take place at deep levels within the person, so that he scarcely knows they exist, it is not difficult to realize that only the effects of the conflict may be experienced: hence, there is anxiety with its source mystifying to the patient as to others. It is then a matter for treatment to ascertain what the difficulties are by helping bring them up to a level where they can be recognized and resolved.

Persons are inclined at times to ascribe "worry" to impersonal matters—weather, work, business conditions and the like. Shakespeare wrote:

> Blow, blow, thou Winter Wind—thou art not so unkind
> As Man's ingratitude.

Strong feelings are usually related to people, so that the most likely origin of intense emotional reactions is in reaction to personal experiences. The quest for the origin of anxiety then takes the physician into a study of the man who is sick rather than of the sickness the man has. In studying him, his important interpersonal relationships often afford clues to difficulties in his earlier life, which often may be overlooked if the physician is descriptive rather than dynamic in his approach. Perhaps the secondary complication of personal relationships that occurs when alcohol is used excessively has obscured some of the primary problems of personal adjustment which led to the development of anxiety. Again, although gross interpersonal difficulties in childhood and later will be found at times but sometimes may not be apparent, one needs to work from the person toward the situation rather than vice versa. Arithmetic may be hard for one child, easy for the next. It is not so much in a situation as in its meaning to the person that the physician finds clues to the development of interpersonal and personal difficulties.

CLINICAL STUDY

From the foregoing considerations it will be apparent that no simple and short method can be offered for working out the problems involved in alcoholism. There are many aspects, and no one is equally facile in dealing with each of these; hence physicians need to team up and to pool their resources. The establishment of centers such as that in Rochester, N. Y., and the University of Buffalo Information and Rehabilitation Center is a move in this direction. As alcoholism is a disease, there is need for a constructive attitude toward those afflicted with it; as it is a symptom, there is need to survey the patient's life and relationships as well as his bodily health. As it is a dis-ease, the physician must learn in therapy how to offer real relief rather than leave the patient at the mercy of his anxieties, with his inner conflicts undetected and unresolved. As anxiety impairs function, one must help toward restoration of his life in whatever ways possible. As the difficulty often involves others, one needs to work with a public health objective. As the basic difficulties in many instances relate to unsatisfying and unsatisfactory human relationships, one must be careful not to deal with the problem as if it existed in the patient alone. As more cases are constantly being added to the already alarming total, there is need to develop a constructive mental hygiene program so that there will not be those in the future who go on to such advanced stages of personal difficulty because of inactivity of members of the medical profession today.

A community that is prepared to face the problem of alcoholism adequately soon finds that many resources are required. It is apparent that the organic changes will need investigation and care and that internal medicine has an important role. Often little more than verbal recognition of the problem has been provided in any organized way, and such an approach is pitifully inadequate. If alcoholism is considered a symptom, it will be recognized that study of the problems behind the presenting problem may lead investigators in almost

any direction and that only a community with an alert interest in many kinds of personal and social difficulty will be prepared to follow up these leads. The many-sidedness of the problem calls for teamwork, and through such teamwork modern psychiatry is finding that it can be most effective.

A community center serves as a coordinating and educational headquarters for an organized approach to the medical, psychiatric, social and public health aspects of the patient's illness. The acceptance as a person and the possibility of finding real help are important early experiences for the patient coming to the center. Often he is in poor physical condition and requires organic examination; facilities need to be available for this and for temporary hospital care. Through concerted efforts hospitals which previously closed their doors to the excessive drinker are persuaded to accept him as a patient. The damaged self respect of the patient begins to revive under the influence of the worth-whileness that others find in him.

The foregoing discussion of anxiety makes it clear that there is no one kind of trouble for which excessive drinking may be used in a vain effort to find inner ease, any more than there is any one kind of pain for which acetylsalicylic acid or codeine may be taken. The psychiatric study calls for the psychiatrist, particularly one with experience in problems at the community level, to evaluate the kind and degree of personal disturbance and the manner in which treatment can be given. The psychiatrist is not nearly as effective alone as he is as part of a full psychiatric "team"—psychiatrist, internist, social worker, psychologist, receptionist and, for inpatient work, the psychiatric nurse. All of them need the same approach to the patient, yet each has a specific function. Added to these are other workers in various cases—clergymen, judges, social agencies and the like—whose combined efforts can bring about results that no one person can achieve. In the community there are already many who have played an active role in combating alcoholism, and particular credit here should be given to the pioneering efforts of Alcoholics Anonymous. There is a medical-psychiatric phase to the problem which is beyond their lay skill, but they have shown that they have an important function which the professional team cannot perform. It is a matter of working together for a common objective. It is becoming apparent that psychiatrically directed group therapy has a useful function for certain patients, and experience in it often is carried back to individual meetings of Alcoholics Anonymous.

All phases of medical practice today are working at the preventive aspects of alcoholism. When troubles are obvious, diagnosis is easy but treatment is difficult. Although early treatment is relatively easy, diagnosis then is difficult. Those concerned with this problem must expect at first to work hard for results, because knowledge and understanding will be slow in coming; but the whole history of man's fight for health and against disease shows that with determination to care for the sick and to keep working in their behalf, gradually a comprehension of their needs grows. Out of the understanding of sickness comes a realization of what health is. When that is known, effective prevention becomes possible. The community that faces the problems of alcoholism squarely is making a sound investment in the health and happiness of all its citizens.

24 High Street (3).

ESOPHAGEAL HIATAL HERNIA

LOUIS H. CLERF, M.D.
THOMAS A. SHALLOW, M.D.
F. JOHNSON PUTNEY, M.D.
and
KENNETH E. FRY, M.D.
Philadelphia

During the fifteen year period from Jan. 1, 1934 to Jan. 1, 1949 we observed as both inpatients and outpatients at the Jefferson Hospital, Philadelphia, 110 patients with esophageal hiatal hernia. It is the purpose of this report to present an analysis of this group of patients with particular reference to the problems of diagnosis and the indications for surgical therapy. Only patients with true esophageal hiatal hernia were included in the report; those patients with a congenital shortening of the esophagus were excluded. No significant sex predilection was noted in this series. There were 59 women and 51 men.

Esophageal hiatal hernia is primarily encountered in middle and later life, although the symptoms may begin in childhood when the hernia is congenital in origin. In this series of 110 cases, the youngest patient was 29 years of age and the oldest 78. There were 78 patients between the ages of 50 and 70, 40 patients between 60 and 70 and only 7 patients less than 40.

TABLE 1.—*Duration of Symptoms in 110 Patients with Hiatal Hernia*

Months	No. of Cases	Years	No. of Cases
Under 3	12	1	21
3-6	8	2	20
6-9	5	3	9
9-12	2	4	6
	—	5	10
Total	27	6	2
		7	1
		10	4
		12	4
		15	1
		18	2
		20 or over	4
			—
		Total	83

SYMPTOMS

Harrington [1] has termed esophageal hiatal hernia the "masquerader" of the upper part of the abdomen. The amount of mechanical interference with the function of the herniated viscus, the degree of diaphragmatic dysfunction and the amount of increased intrathoracic pressure determined the type and number of symptoms. Instead of the many symptoms that usually are present, there may be none. In this series 3 patients were symptomless. In more than three fourths of the cases the symptoms had been present longer than a year; in 27 cases the duration was in months (table 1). The majority of patients in the group whose symptoms had lasted for years had been under medical care during this entire period without having had a correct diagnosis of the condition.

The outstanding primary symptom was dysphagia, which occurred in approximately one half of the cases (56). Pain was the initial complaint in 23 cases, and

From the Department of Broncho-Esophagology and the Department of Surgery, Jefferson Medical College Hospital, Philadelphia.

1. Harrington, S. W.: Surgical Treatment of the More Common Types of Diaphragmatic Hernia, Ann. Surg. 122: 546 (Oct.) 1945.

digestive disturbances classified as indigestion occurred in 12 cases. Other primary symptoms, in the order of frequency, were regurgitation, lodgment of food, hemorrhage, weakness, loss of weight and hoarseness. The majority of patients had several complaints, but again the most common were dysphagia (62 cases) and pain (58 cases). Therefore, when these two symptoms are present esophageal hiatal hernia must be seriously considered (table 2). There was difficulty in swallowing both liquids and solids, but, commonly, solid foods gave the most distress, the patients finding it necessary to take small amounts of food at frequent intervals.

TABLE 2.—*Incidence of Symptoms in 110 Patients with Hiatal Hernia*

Symptoms	Patients with Symptom as a Primary Complaint	Total No. of Patients with Symptom
Dysphagia	56	62
Pain	23	58
Regurgitation	5	29
Weight loss	2	23
Indigestion	12	20
Vomiting	0	13
Lodgment of food	5	11
Gastrointestinal hemorrhage	3	9
Weakness	2	3
Cough	0	2
Hoarseness	1	1
No symptoms	3	3

Pain in some locality was a prominent symptom. The extent, character and location of the pain was variable. In some cases it was in the chest, either precordial or radiating upward in the shoulder or downward into the abdomen. In other instances food intake initiated an attack of epigastric pain, which usually came on during or after a heavy meal and was relieved by belching or vomiting. The pain was not constant but came in attacks which varied in duration from a few minutes to hours. The attacks were mild and spaced at infrequent intervals in the early stages, but, as the stomach became fixed by adhesions in the thorax, the attacks became more constant and more severe. Four patients were treated for coronary thrombosis because of the severe radiating precordial pain, relieved only by opiates. Phrenic pain referred to the shoulder top and at times projecting down the arm was associated with spasm of the diaphragm.

Loss of weight was present in 23 patients; this was attributed to the restriction of diet which was practiced by most of the group and to vomiting, which occurred in 13 cases. Twenty patients complained of indigestion which took the form of gas, belching or epigastric fulness after meals. Sensation of food lodgment was a symptom in 11 patients, many of whom complained of food sticking in the neck region. Large quantities of fluids were taken with meals in order to relieve the feeling of impacted foods. Hemorrhage was encountered in 9 cases and was manifested both by hematemesis and melena. Ulceration at the esophagogastric junction was found to be the cause. In 3 cases the bleeding was severe, and 1 of these patients required repeated blood transfusions. The weakness which was present in 3 cases was associated with shortness of breath and may have been due to cardiac embarrassment from increased intrathoracic pressure and restricted diaphragmatic movement. Respiratory symptoms were not common, occurring in 3 patients, 2 of whom complained of cough and the third of hoarseness.

DIAGNOSIS

Two means of diagnosis are available, roentgenography and esophagoscopy. Both methods should be used, for one supplements the other. In this series the diagnosis was made by both roentgenographic and esophagoscopic examination in 97 cases. In the remaining 13 cases the diagnosis was made by esophagoscopic examination alone. In no cases were the lesions found roentgenographically and not esophagoscopically. The roentgen findings in the 13 cases in which the lesions were diagnosed by esophagoscopy alone were: normal, 6; achalasia, 3; carcinoma, 2, and esophageal diverticulum, 2.

Stenosis can be determined equally well by either method, and in this series the condition was found by roentgen examination in 16 cases and by esophagoscopic examination in 18 cases. In 1 patient stenosis was revealed by roentgen examination and not esophagoscopically. The stenosis varied, consisting of either a funnel-like narrowing, an abrupt constriction or a weblike stricture.

In roentgenographic diagnosis the esophagus and stomach must be viewed from many angles to determine the position of the lower end of the esophagus. Films made with the patient in the recumbent position were frequently necessary to outline the esophagogastric junction in relation to the diaphragm, for in reducible hernia the stomach may assume a thoracic position only when the patient is recumbent. The diagnosis became certain when gastric rugae could be demonstrated above the level of the diaphragm.

TABLE 3.—*Errors in Previous Diagnosis in 35 Patients with Hiatal Hernia* *

Previous Diagnoses	Patients
Carcinoma	8
Achalasia	5
Duodenal ulcer	4
Coronary thrombosis	4
Cholecystitis	2
Gastric ulcer	2
Indigestion	2
Foreign body	2
Esophageal diverticulum	2
Gastrointestinal hemorrhage	2
Anemia	1
Multiple diagnoses	1
Total	35

* Some patients had multiple lesions—cholecystitis with or without gallstones, coronary artery disease, duodenal ulcer or traction diverticulum. This group is not included in this table.

The esophagoscopic diagnosis was dependent on the anatomic demonstration of a portion of stomach above the diaphragm, relaxation of the esophageal mucosa and absence of the normal "pinchcock" action at the hiatus.

Esophagoscopy was superior to roentgenography in determining the presence of ulceration. Ulceration could be demonstrated in 39 patients by esophagoscopy, while in only 5 was the diagnosis made roentgenographically. The ulceration varied from a small area to

extensive involvement of the entire esophagogastric junction. The ulcerations were superficial and covered by exudate, and granulations, when present, were usually flat. Histologic examination of the ulcers commonly revealed superficial ulceration of gastric mucosa, but persistent ulceration required repeated histologic examinations to rule out malignant change.

TABLE 4.—*Treatment or Recommendation in 110 Patients with Hiatal Hernia*

	No. of Cases
Medical	56
Esophagoscopic	20
Surgical procedures recommended	34
Surgical procedures performed	16
Phrenic exeresis	8
Transabdominal	5
Transthoracic	3
	16

ERRORS IN PREVIOUS DIAGNOSIS

Errors in previous diagnoses were common (table 3). Many of these patients had had more than one clinical diagnosis, and operations were performed on some without relief. A few patients had more than one lesion: cholecystitis with or without gallstones, coronary artery disease, duodenal ulcer or traction diverticulum of the esophagus. In a study of 404 patients with esophageal hiatal hernia operated on by Harrington [1] it was found that an average of three previous erroneous clinical diagnoses had been made before the correct diagnosis was established. In this group of 110 patients, 35 had had previous errors in diagnosis. This excluded the group of patients with multiple lesions.

These errors varied widely, ranging from coronary artery disease to foreign bodies in the esophagus. As one would expect, twenty-seven of the thirty-five incorrect diagnoses were of other lesions of the gastrointestinal tract. Only fifteen of these supposed lesions were located in the anatomic region of the esophagogastric junction. In a number of these patients hiatal hernia had been suspected, but roentgenographic study was reported as showing normal conditions. These errors may have been due to the neglect of the physician in not requesting the radiologist to definitely look for hiatal hernia.

The mistaken diagnosis of coronary artery disease posed a definite problem in those patients in whom surgical procedures were being considered. A cardiologist must be cognizant of this simulation in order to exclude cardiac disease which might contraindicate surgical repair. The most common error was a diagnosis of carcinoma. One should always investigate this possibility completely, but an erroneous diagnosis of cancer should not be imparted to the patient.

INDICATIONS FOR SURGICAL INTERVENTION

Most patients with hiatal hernia do not require surgical intervention (table 4). Definite indications for surgical repair have not yet been standardized. In patients under age 55 whose symptoms are progressive and/or whose hernias increase in size, as measured by the amount of stomach above the diaphragmatic level, we believe surgical intervention is indicated. These hernias are progressive in that they tend to increase in size. This younger group should have the benefit of repair when they are in good physical condition. These patients are usually excellent surgical risks. When one third of the stomach is above the diaphragm, conservative measures seldom give relief.

Severe and recurrent hemorrhage from chronic or recurrent ulceration, either of the lower end of the esophagus or of the gastric pouch, is an indication for surgical treatment. Minor bleeding which is not recurrent may be treated conservatively.

Incarceration or threatened strangulation diagnosed chiefly from the symptoms is a third indication for surgical repair. The pain becomes constant, with an increase in severity. Vomiting which persists and does not give complete relief may occur. Hemorrhage may be seen, not usually of severe grade. Temporary relief has been obtained by intubation of the gastric pouch and constant suction, but recurrence of the symptoms is to be expected.

Carcinoma of the esophagus or stomach occurring in patients with hiatal hernia is seldom mentioned. One patient in this group had a squamous cell carcinoma of the esophagus within 4 cm. of the esophagogastric junction.

TREATMENT

The majority of patients can be relieved symptomatically by medical or mechanical treatment or both. In this series medical and mechanical treatment was used in 76 cases (69 per cent).

The medical treatment comprised a bland, low-residue diet, thorough mastication, elimination of bulky foods and swallowing of small amounts at a time. Liquids taken with a meal aid in washing down the food bolus, particularly if there is a tendency for stagnation to occur at the site of the herniation. Postural measures to encourage the passage of foods were also advocated, and the patient usually improved when the semirecumbent position was used for sleeping. Reclining after meals was detrimental, and a sensation of epigastric fulness often followed; relief was afforded by assuming the erect position. Constrictions around the abdomen tended to increase the intra-abdominal pressure and intensified the symptoms.

Antispasmodic drugs and alkalis were used to relieve pain by counteracting the gastric acidity in the lower end of the esophagus from the incompetent hiatus. Sodium bicarbonate, aluminum hydroxide, phenobarbital and belladonna, alone or in combination, were most often employed and were more effective when ulcerations were present. Alkalis may be taken before or after meals, following the approved regimen for peptic ulcer.

The principles involved in mechanical treatment are relief of obstruction by dilatation and treatment of ulcerations by topical applications. Relief can be afforded by endoscopic procedures, and patients were carried along by this means for many years, some requiring treatment only two or three times a year. Dilatation of obstruction was done either esophagoscopically or perorally by passage of olive-tipped bougies over a previously swallowed string. When the chief difficulty was obstruction alone, repeated peroral bouginage over a previously swallowed string has enabled patients to get adequate nourishment with freedom from dysphagia. The frequency of the dilatation depends considerably on the type and severity of the constriction,

and dilatation should be employed often enough to maintain an open esophageal channel.

In cases of ulceration, treatment must be performed esophagoscopically so that the ulcerated areas may receive local treatment. In some cases ulcerations were persistent, requiring frequent treatments. Care must be taken not to employ too strong an alkali or acid for fear of producing contracture and stenosis with healing of the ulceration. Silver nitrate (10 per cent) has been adequate to promote healing. After healing has occurred, ulcerations sometimes return with dietary indiscretions and failure to follow medical treatment.

In patients requiring surgical procedures, repair of the defect is the treatment of choice. In this group of patients, 34, or 31 per cent, were advised that surgical intervention was indicated. Of these, 16 were operated on. Eight patients who were poor operative risks had phrenic exeresis under local (1 per cent procaine hydrochloride) anesthesia. Eight had repair of the defect in the diaphragm with replacement of the stomach into the peritoneal cavity. Surgical repair of esophageal hiatal hernia has been described in full by Harrington,[1] who used the abdominal approach. In 5 of these patients the surgical approach was through the abdomen and in 3 through the left side of the thorax. We have had no experience with the method of transferring the esophagogastric junction into a new location and obliterating the hiatus completely, as described by Merendino, Varco and Wangensteen.[2]

SUMMARY

1. A series of 110 cases of esophageal hiatal hernia observed during a period of fifteen years, with emphasis on diagnosis and indications for surgical treatment, has been reported.

2. Esophageal hiatal hernia should be considered in patients with vague, indeterminate symptoms in the lower part of the chest or the upper part of the abdomen. There is no characteristic clinical picture, and cardiac, respiratory or other gastrointestinal diseases may be simulated. The combination of dysphagia and pain in some location should suggest the diagnosis.

3. Errors in previous diagnosis were common among patients in this series. An important factor in the diagnosis is the use of both roentgenography and esophagoscopy. In this series the majority of diagnoses were made by both methods; however, in 13 cases the diagnosis was made by esophagoscopy when the roentgenograms were not conclusive or suggested other conditions. Although stenosis was determined equally well by either method, ulceration at the esophagogastric junction was detected more often by direct visualization.

4. Conservative treatment (medical and mechanical) was carried out in 69 per cent and surgical treatment in 31 per cent of the cases in this series. Although the majority of patients can be successfully treated by conservative measures, some patients require surgical treatment when certain indications are present.

2. Merendino, K. A.; Varco, R. L., and Wangensteen, O. H.: Displacement of the Esophagus into a New Diaphragmatic Orifice in the Repair of Para-Esophageal and Esophageal Hiatus Hernia, Ann. Surg. **130**: 185 (Feb.) 1949.

Pharmacists.—Physicians should recognize and promote the practice of pharmacy as a profession and should recognize the cooperation of the pharmacist in education of the public concerning the practice of ethical and scientific medicine.—Section 3, Chapter IV of the PRINCIPLES OF MEDICAL ETHICS of the American Medical Association.

USE OF DIETHYLSTILBESTROL IN ORCHITIS DUE TO MUMPS

ROBERT J. NORTON, M.D.
Brooklyn

Beyond the age of puberty involvement of the sexual glands as a complication of epidemic parotitis, particularly in the male, occurs in 18 to 35 per cent of cases. About 80 per cent of these involvements appear during the first eight days of mumps. A few occur a considerable time after the epidemic parotitis has subsided. Little difference in the incidence of epididymo-orchitis is noted whether the patient is confined to bed or permitted to walk about during convalescence.[1] The onset is usually characterized by recurrence of fever, decided pain in and swelling of one or both testicles.

In 1912 G. G. Smith [2] and in 1942 Wesselhoeft and Vose [3] recommended incision of the tunica albuginea testis to prevent pressure atrophy of the testicles and consequent loss of spermatogenic function. In the past few years several authors have tried a more conservative approach for prophylaxis and treatment of epididymo-orchitis, using pooled normal plasma and gamma globulin from convalescent mumps serum. Gellis, McGuiness and Peters [4] reported good results with gamma globulin derived from mumps convalescent serum. The other reports [5] are not convincing.

In 1941 and 1942 Charles Matthews and co-workers [6] published a series of articles on the effect of diethylstilbestrol on the testicles. The endocrine substance may affect the testicles by at least two mechanisms. The first possibility is that of a direct action of the substance on the organ, producing an inhibitory effect on spermatogenesis. The effect of diethylstilbestrol on the pituitary gland offers a second possibility whereby the testicles may be affected. Since the testicle is thought to be under the control of the pituitary, any treatment which would affect the gonadotropic function of this gland might cause atrophy of the testicles. However, Matthews and associates demonstrated recovery of the reproductive system of the male rat within an average of 47.5 days after regressive changes had been induced by diethylstilbestrol.

Encouraged by these experimental results, studies have been made to evaluate the applicability of diethylstilbestrol in orchitis due to mumps. Savran [7] in 1946 reported studies on 77 patients receiving diethylstilbestrol, with 168 patients as a control group. Of those treated, orchitis developed in 3 after admission, an incidence of 3.9 per cent, while among the untreated patients orchitis developed in 28, or 16.6 per cent. The treatment consisted of 1 mg. of diethylstilbestrol administered three times daily; in subsequent patients the dose was increased to 1 mg. four times daily, follow-

From the Kingston Avenue Contagious Disease Hospital, service of Dr. Kenneth G. Jennings.

1. Nelson, W. E.: Textbook of Pediatrics, Philadelphia, W. B. Saunders Company, 1946.
2. Smith, G. G.: Two Cases of Orchitis Due to Mumps Treated by Operation, Boston M. & Surg. J. **167**: 323 (Sept.) 1912.
3. Wesselhoeft, C., and Vose, S. N.: Surgical Treatment of Severe Orchitis in Mumps, New England J. Med. **227**: 277 (Aug.) 1942.
4. Gellis, S. S.; McGuiness, A. C., and Peters, M.: A Study on the Prevention of Mumps Orchitis by Gamma Globulin, Am. J. M. Sc. **210**: 661 (Nov.) 1945.
5. Candel, S.; Wheelock, M. C., and Grimaldi, G. J.: Mumps Orchitis, U. S. Nav. M. Bull. **45**: 97 (July) 1945. Rambar, A. C.: Mumps: Use of Convalescent Serum in the Treatment and Prophylaxis of Orchitis, Am. J. Dis. Child. **71**: 1 (Jan.) 1946.
6. Matthews, C. S.; Emery F. E., and Schwabe, E. L.: Regressive Changes in the Reproductive System of Male Rats Induced by Stilbestrol, Endocrinology **28**: 761 (May) 1941. Matthews, C. S.; Schwabe, E. L., and Emery, F. E.: Studies on Recovery of the Reproductive System of the Male Rat from Regressive Changes Induced by Stilbestrol, ibid. **30**: 89 (Jan.) 1942.
7. Savran, J.: Diethylstilbestrol in the Prevention of Orchitis Following Mumps, Rhode Island M. J. **29**: 662 (Sept.) 1946.

ing which none of the patients had orchitis. Hoyne and co-workers[8] used diethylstilbestrol in 39 patients, without controls. In 23.08 per cent orchitis developed while they were receiving 1 mg. of diethylstilbestrol daily, but the incidence was zero for those receiving 2 mg. daily.

ANALYSIS OF CLINICAL MATERIAL

During the period 1946 to 1948 a total of 170 cases of mumps in male patients aged 13 years and over were observed at the Kingston Avenue Hospital. Ninety-two patients were treated with diethylstilbestrol for an average of five to seven days, and 78 were used as controls. Of the 78 controls, 42 had orchitis on admission; of the remaining 36 admitted without orchitis, 6, or 16.7 per cent, had this complication subsequently. Of the 92 patients who received treatment therapeutically or prophylactically, 47 had epididymo-orchitis on admission to the hospital. Of these 47 patients, 7 received 1 mg. of diethylstilbestrol three times daily, and 40 received 5 mg. three times daily. The remaining 45 patients of this group admitted without orchitis received 5 mg. three times daily. Orchitis developed in 7, or 15.6 per cent, of this last group. One patient aged 30 received a course of 15 mg. diethylstilbestrol daily for seven days. He was discharged the eighth day, stayed home for one week and then was readmitted with epididymo-orchitis.

TABLE 1.—*Therapeutic Use of Diethylstilbestrol in Orchitis Due to Mumps*

	Days of Fever	Days of Orchitic Swelling	Bilateral	Unilateral
Treated (47)				
1 mg. (7)	6.4	11.0	5	2
15 mg. (40)	5.4	8.6	10	30
Untreated (42)	5.2	9.2	9	33

Table 1 summarizes the results obtained with the therapeutic use of diethylstilbestrol, comparing its effects on a group of 47 patients admitted with orchitic swelling and 42 who did not receive endocrine therapy. Of those treated, 7 received 1 mg. three times daily and 40 received 5 mg. three times daily. It can be noted that the duration of the fever was 6.4 days for those receiving 1 mg. and 5.4 days for those receiving the larger dose. Although this would appear to be a significant difference, the figure of 5.2 days as the average duration of fever in the untreated patients negates this impression. There seems to be little significant difference in the duration of the orchitic swelling or in the occurrence of bilateral or unilateral involvement for the two groups. It would thus appear that the therapeutic value of diethylstilbestrol in orchitis due to mumps is extremely dubious.

In table 2 are seen the figures obtained by the use of diethylstilbestrol prophylactically. In this group all patients received 5 mg. of diethylstilbestrol three times daily. The duration of fever in those in whom orchitis developed was 4.3 days as compared to 5.1 in the untreated group. This figure of 4.3 days is considered significantly lower than that for the untreated group, especially when compared to the duration of fever of 6.4 days for those treated therapeutically with 1 mg. of diethylstilbestrol three times daily. The figure of 6.9 days for the duration of orchitic swelling is also significantly smaller than that for any of the other groups, with an average of 9.3 days for those untreated. There appears to be no appreciable effect on the occurrence of unilateral or bilateral orchitis, and an incidence of orchitis in 15.6 per cent of those given diethylstilbestrol prophylactically compared to 16.7 per cent in those untreated does not appear to indicate any major prophylactic value for the endocrine substance.

TABLE 2.—*Prophylactic Use of Diethylstilbestrol in Mumps*

	Days of Fever	Days of Orchitic Swelling	Bilateral	Unilateral	Number of Cases in Which Orchitis Developed	Percentage of Occurrence
Treated (45)						
15 mg.	4.3	6.9	1	6	7	15.6
Untreated (36)	5.1	9.4	1	5	6	16.7

In table 3 are compared the results obtained in this series with those of Savran and Hoyne. In the figures reported by both groups it would appear that there is a decreasing incidence of orchitis due to mumps with the use of diethylstilbestrol, as well as a diminishing number of cases with increasing doses of the endocrine substance. The data collected at the Kingston Avenue Contagious Disease Hospital clearly negate the results of Savran and Hoyne, with almost equal incidence of orchitis due to mumps in both controls and treated patients. It should be noted, however, that the subjective reports of those treated prophylactically indicated considerably less discomfort and pain.

Also investigated but not included in the tables was the consideration whether diethylstilbestrol influenced the termination of the fever. Among all groups the termination by lysis or crisis was the same.

COMMENT

Savran found that a beneficial effect resulted from the administration of diethylstilbestrol prophylactically in the prevention of orchitis due to mumps. This drug has been used at the Kingston Avenue Contagious Disease Hospital both prophylactically and therapeutically in cases of mumps and of mumps complicated by orchitis. Hoyne and co-workers have also reported a beneficial effect of diethylstilbestrol in the prophylaxis and treatment of the aforementioned condition.

TABLE 3.—*Analysis of Results of Diethylstilbestrol Therapy*

Cases in Which Orchitis Developed After Hospitalization	Savran	Hoyne and Others	Norton
Untreated	16.6%	.....	16.7%
Treated			
1 mg.	.....	23.08%	.....
2 mg.	.....	None	.....
3 mg.	3.9%	.....	.....
4 mg.	None	.....	.....
15 mg.	.....	.....	15.6%

From a three year study I believe that diethylstilbestrol is of little use therapeutically in orchitis due to mumps. Also, its value in preventing the onset of orchitis due to mumps with the doses used at this hospital appears to be nil. Some value, however, exists in terms of less pain, shorter duration of fever and less orchitic swelling when diethylstilbestrol is used prophylactically.

8. Hoyne, A. L.; Diamond, J. H., and Christian, J. R.: Diethylstilbestrol in Mumps Orchitis, J. A. M. A. 140:662 (June 25) 1949.

SUMMARY

1. The use of diethylstilbestrol was investigated for both its therapeutic and prophylactic value in mumps orchitis.

2. No significant differences were noted between the therapeutically treated patients and those in the control group.

3. The administration of diethylstilbestrol does not prevent the onset of orchitis due to mumps. There is little difference between the incidence of this condition among the prophylactically treated group and the controls.

4. Prophylactically, the administration of diethylstilbestrol may be advisable for its value in terms of shorter duration of both fever and orchitic swelling and less discomfort if orchitis develops.

Clinical Notes, Suggestions and New Instruments

DIAPHRAGMATIC FLUTTER

Follow-Up Report

WILLIAM J. SENTER, M.D.
Raleigh, N. C.
LLOYD F. TIMBERLAKE, M.D.
Atlanta, Ga.
and
ROBERT NELSON, M.D.
Birmingham, Ala.

This is a follow-up report of a patient whose case has been followed in THE JOURNAL from time to time.[1]

On June 15, 1948 a 76 year old white man was admitted to Lawson Veterans' Administration Hospital, Chamblee, Ga., with severe pain in the left side of the chest. He gave the following history: He had been a "radar operator" on a merchant steamer on which there had been an explosion off Cape Hatteras ten days previously. He had been thrown from the radio room, with a resultant concussion of the chest. He was admitted to the Marine Hospital, Norfolk, Va., where he began coughing up blood from the "right chest." A phrenic nerve operation was done on the right side to control the hemorrhage. Since the patient was anxious to visit relatives in Florida, he left the hospital after four or five days, against medical advice. His journey carried him through Atlanta, Ga., and while hurrying across a street, he was suddenly seized with severe pain in the left side of the chest and collapsed. An ambulance rushed him to the City Hospital, where a diagnosis of myocardial infarction was made. Because rapid tic-tac sounds in the region of the cardiac apex were heard, a diagnosis of ventricular tachycardia was made and quinidine sulfate was given. A short time later an electrocardiogram was made which showed a normal sinus rhythm. The tic-tac sounds were no longer present. He insisted that he was a veteran of both world wars and demanded treatment in a veterans' hospital.

Examination showed: blood pressure, 120 systolic and 80 diastolic; pulse rate, 76; temperature, 97.2 F., and respirations 40, rapid and jerky. He appeared acutely ill, with an anxious expression and a belligerent attitude. There was a recent incision, with sutures still in place, in the right supraclavicular region, and in the left supraclavicular region there were old linear scars. The pupils were miotic, round and equal, and the nasal septum was perforated anteriorly (said to be due to gas in World War I). He had a closely cropped mustache, linear scars over the upper and lower lips and complete dentures. There was limitation of motion of the left side of the chest, with short and jerky respirations. Intercostal muscles over the left anterior portion of the chest were tight. Breath sounds were distant over the left lower part of the chest and normal on the right. No rales or friction rubs were heard. The heart sounds could not be heard because of a tic-tac, shuffling to and fro rhythm heard in the left lower part of the chest at a rate of 240 per minute. At first this sound was confusing, but, when the radial pulse was compared with the precordial sounds, the discrepancy bore out the true diagnosis of diphragmatic flutter.

Fluoroscopic examination revealed the right leaf of the diaphragm to be high and fixed. Rhythmic contractions of the left leaf at a rate of 240 per minute were seen. Respiratory movements of the left side of the diaphragm were not seriously affected. An electrocardiogram showed a normal sinus rhythm with a rate of 75. T waves were inverted in leads V_1 through V_4, suggesting myocardial ischemia.

On admission the white blood cell count was 10,150, with 42 per cent segmented forms, 8 per cent band cells, 7 per cent juvenile forms, 38 per cent lymphocytes, 3 per cent monocytes, 1 per cent eosinophils and 1 per cent basophils. The hemoglobin was 14 Gm. per hundred cubic centimeters. The sedimentation rate was 32 mm. per hour. The Kahn reaction of the blood was negative. Urinalysis showed a specific gravity of 1.022 with albumin (1 plus), sugar (2 plus), no acetone, occasional hyaline casts and a few white blood cells. The nonprotein nitrogen was 35 mg. per hundred cubic centimeters. The prothrombin time was 19 seconds, with a control time of 17 seconds. The fasting blood sugar was 100 mg. per hundred cubic centimeters. A urinalysis on June 21, 1948 showed a specific gravity of 1.024, a trace of albumin and no sugar.

During the patient's hospital stay, the episodes of diaphragmatic flutter recurred irregularly, lasting one to three hours. They appeared to be accompanied with severe pain, for which he asked relief; however, he preferred the pain to any type of injection.

When questioned about his identity and past history, he was adamant in his denial of previous episodes. He was definitely identified as the man reported periodically in THE JOURNAL by the tattoos on his forearms described by Cain and Ware.[1c] When asked when he had last seen Dr. Porter,[1a] he admitted his identity and became vehement in his tirades against the medical profession in general for publicizing his case. He insisted that his name was Charles Bennett, by which name he was admitted to this hospital. After a few days of rest the attacks of flutter became less frequent and the patient left the hospital against medical advice.

With this report we can add little in determining the etiology of diaphragmatic flutter. We did not complete the ligation of the left phrenic nerve because we felt that it probably followed an unusual course in the neck. It seemed apparent that the repeated attempts in the past to completely ligate the left phrenic nerve had failed probably because the nerve is anomalous or has a circuitous route. The question arose as to whether this patient could bring on his attacks of diaphragmatic flutter and thereby go from one hospital to another. We have no reason to believe that this is true. We do feel strongly that he does not use this malady to obtain any sort of drug. During this hospital admission he again had a temperature of 102 F., for which no cause was determined. This phenomena has been described in the literature on several occasions.

We hope that reports of this man's progress continue to reach the literature. His is an exceedingly interesting case.

Addendum.—One of us (W. J. S.) was visiting in the Veterans' Administration Hospital in Fayetteville, N. C., in February 1949, and saw this patient in another attack of diaphragmatic flutter. At that time he had grown a beard which completely covered his face and extended in goatee fashion for about 4 inches.

From the Medical Service, Lawson Veterans Administration Hospital, and the Department of Medicine, Emory University School of Medicine, Atlanta.

1. (a) Porter, W. B.: Diaphragmatic Flutter with Symptoms of Angina Pectoris, J. A. M. A. **106**:992 (March 21) 1936. (b) Whitehead, R. W.; Burnett, C. T., and Lagen, J. B.: Diaphragmatic Flutter, J. A. M. A. **113**:1237 (April 1) 1939. Goodman, M. J.: Paroxysmal Flutter of Diaphragm Simulating Coronary Occlusion, J. A. M. A. **116**:1635 (April 12) 1941. (c) Cain, E. F., and Ware, E. R.: Diaphragmatic Flutter, with Symptoms Suggesting Angina Pectoris, J. A. M. A. **131**:1058 (July 27) 1946.

POSTOPERATIVE TETANUS

Report of a Fatal Case

HENRY J. VAN DUINE, M.D.
Grand Rapids, Mich.

It is fortunate that tetanus is a rare complication of elective surgical procedures. However, when it does occur the result tends to be disastrous, and the problem of the management of the capricious disease may suddenly become extremely important to the surgeon who is obliged to continue on the case as the responsible medical attendant. The following case report presents an experience with fulminating infection with Clostridium tetani occurring after a pelvic operation.

REPORT OF CASE

B. V. K., a white woman aged 42, was first admitted to the hospital on May 28, 1948 with colic-like abdominal pain, vomiting and diarrhea. Her last menstrual period had begun normally thirty days before, but she had been bleeding intermittently since. Chills and fever had been present for one week. Though married for twenty years, she had never been pregnant. The chief finding on physical examination was a large cystic tumor mass filling the entire pelvis. There were 32,000 white blood cells, 95 per cent of which were polymorphonuclear forms. Operation for removal of the pelvic mass was advised.

At operation on May 28 my associates and I found a large pyosalpinx, measuring 15 by 13 cm., which was intimately adherent to the uterus, omentum and sigmoid colon. It was necessary to use sharp dissection to free the mass from the latter, and, in doing this, some of the serosa was stripped off. However, the denuded area was later peritonized. Because of the pyogenic nature of the lesion, the patient was given 300,000 units of penicillin daily for seven days and 75 grains (5 Gm.) of sulfadiazine daily for two days. Her highest postoperative temperature was 99.4 F. She was ambulant on the first postoperative day; her wound healed per primum, and she was discharged on the tenth postoperative day.

Seven days later, or seventeen days after the operation, she was readmitted to the hospital by ambulance in convulsions. The previous night she had complained of some pain and stiffness of the neck and a little difficulty in swallowing and had expressed the fear that lockjaw was developing. At 4 a. m. her husband had been awakened by the first of her convulsions, which were almost continuous until her arrival at the hospital. At that time, the jaws were set so that the mouth could not be opened. Tapping of the angle of the jaw increased the severity of the trismus and initiated another series of convulsions, during which she became cyanotic and almost ceased breathing. The chest and abdominal muscles became rigid, and opisthotonus became so severe that spinal puncture was out of the question. She was placed in a quiet, dark room with a special nurse in attendance. The slightest noise, such as the opening of a door, frequently started another convulsion. Between these episodes her mind was clear and she was aware of her condition.

The treatment given during the first two days is summarized in the accompanying table. Tetanus antitoxin therapy was begun after a skin test for sensitivity gave a negative reaction. She was given a total of 1,900,000 units of penicillin and 260,000 units of tetanus antitoxin over a period of thirty-eight hours. Her progress was encouraging until the evening of the first day, when the convulsions returned and became uncontrollable with the milder sedatives. At this time she was given 3 cc. (60 units) of *d*-tubocurarine chloride by Dr. Edward Thompson of the Division of Anesthesiology. The response was dramatic; face and throat muscles relaxed; breathing became free, and color improved. This was short lived, however, because within half an hour the most violent convulsion of all developed and further sedation was necessary. Cyanosis became severe, and only the immediate aspiration of mucus from her throat and vigorous oxygen administration prevented asphyxiation. Thereafter, oxygen was administered by nasal catheter continuously. The major problem then was to combat the convulsions, and it took anesthetic doses of tribromoethanol interspersed with milder sedatives to accomplish this. The morning of the second day the convulsions had ceased, and further sedation seemed unnecessary. She was mentally alert, could swallow liquids, could talk and was cooperative. In spite of frequent aspiration of mucus from the throat and continuous oxygen therapy, cyanosis and respiratory embarrassment persisted. Coarse scattered rales were present throughout both lungs, except for the left base, where there was an area of dulness. The temperature rose to 102.6 F., respiratory rate to 40 and pulse rate to 130. Pulmonary edema with bronchopneumonia had developed, as confirmed by a portable chest roentgenogram. The patient died twenty-one hours after the last convulsion.

Treatment Given During the First Two Days in a Case of Tetanus

	Tetanus Antitoxin *	Aqueous Penicillin †	Sedation
First Day			
9:00 a. m.	40,000	.....	Morphine sulfate, 15 mg.
10:00 a. m.	.....	100,000	.....
1:00 p. m.	40,000	100,000	.....
3:00 p. m.	.....	.....	Phenobarbital sodium, 120 mg.
4:00 p. m.	.....	100,000	.....
5:00 p. m.	20,000	.....	.....
6:00 p. m.	.....	.....	Phenobarbital sodium, 120 mg.
7:00 p. m.	.....	.....	3 cc. *d*-tubocurarine chloride (60 units)
7:30 p. m.	.....	.....	Phenobarbital sodium, 600 mg.
9:00 p. m.	.....	.....	Tribromoethanol, 90 mg. per kilogram
10:30 p. m.	.....	.....	Phenobarbital sodium, 180 mg.
12:30 p. m.	.....	.....	Tribromoethanol, 90 mg. per kilogram
2:00 a. m.	.....	.....	Phenobarbital sodium, 120 mg.
5:00 a. m.	.....	.....	Tribromorthanol, 90 mg. per kilogram
Second Day			
7:00 a. m.	40,000	.....	.....
8:00 a. m.	.....	100,000	.....
10:00 a. m.	20,000	.....	.....
11:00 a. m.	.....	300,000	.....
2:00 p. m.	20,000	.....	.....
3:00 p. m.	.....	300,000	.....
6:00 p. m.	.....	300,000	.....
7:00 p. m.	40,000	.....	.....
9:00 p. m.	.....	300,000	.....
10:00 p. m.	20,000	.....	.....
12:00 p. m.	.....	300,000	.....
1:00 a. m.	20,000	.....	.....
Total	260,000	1,900,000	

* Units given intravenously.
† Units given intramuscularly.

Autopsy Observations.—Important observations at autopsy [1] were limited to the lungs and pelvis. The left lung weighed 810 Gm. and showed moderate increase in consistency throughout; its cut surface was gray-green and exuded a large amount of clear frothy fluid. The right lung weighed 850 Gm.; its upper and middle lobes resembled the left lung, while the lower lobe was almost completely collapsed and its basal pleura adherent to the diaphragm. Cross section revealed a wedge-shaped area of red discoloration at the right base, 7 by 4 cm., the base of the wedge being situated beneath the pleura. There was no abscess or other form of necrosis in the lesion; however, the bronchial tree adjacent to it contained blood-tinged purulent exudate, and the related branches of the pulmonary artery contained organized blood clot. Microsection revealed scattered lobular suppurative inflammation associated with a large amount of serous exudate in the alveoli. The right basal lesion exhibited a more advanced degree of suppurative inflam-

From the Department of Surgery, St. Mary's Hospital, Grand Rapids. Dr. Van Duine is a fellow of the American College of Surgeons.

1. Autopsy was performed by Dr. Edward F. Ducey, four hours after the death of the patient.

mation associated with thrombosis of the regional pulmonary arterial tree; nothing resembling an embolus could be identified.

The pelvis contained numerous fresh, sticky adhesions involving loops of small bowel, colon, uterus and adnexa; a firm adhesion formed a pocket between the stump of the right oviduct and the sigmoid colon which contained about 30 cc. of bloody fluid. Cultures of this material revealed Cl. tetani. No other abscesses were found, although the peritoneal cavity contained about 80 cc. of cloudy amber fluid. There was no evidence of intestinal perforation.

Microscopically, the stump of the right tube showed an active subacute inflammation with many microscopic abscesses. In one of these bacterial stains revealed typical tetanus organisms within a mass of granulation tissue on the serosal aspect of the tube wall. Two cubic centimeters of fluid obtained from the basal cistern at autopsy produced no reaction when injected into a guinea pig.

Diagnoses include: postoperative pelvic peritonitis with tetanus infection; residual right salpingitis; pulmonary edema and infarction, and lobular pneumonitis.

COMMENT

Wainwright [2] in 1926 reviewed 3,000 cases of tetanus and found that 365 were postoperative infections. Since that date few cases have appeared in the literature. Schmid [3] in 1937 reported 9 cases following surgical procedures on the intestine, with 9 deaths. Bunch and Quattlebaum [4] in 1943 reported 8 cases terminating fatally (6 after hysterectomy, 1 after nephrotomy and 1 after surgical intervention for aneurysm) from small hospitals in which the only method of sterilization was by boiling. The Royal College of Obstetrics and Gynecology of England, realizing that tetanus is more common as a complication in this field than is generally admitted, went so far as to appoint a commission to investigate its occurrence. Tetanus neonatorum from infected navels and tetanus following abortion are said to appear where expected. An unexpected source of the disease was from contaminated vulvar pads made from cotton or wool and infested with the organism. Pizzini has stated that 5 per cent of all men carry Cl. tetani in their stools, whereas stool cultures taken in Peiping, China revealed that 30 per cent of all the persons checked carried the organism. Since the microscopic examination revealed a nidus of spore-bearing organisms at the point where the tube was dissected from the colon, we presume that our patient had these bacteria in her bowel and that the presence of pyogenic organisms and local surgical trauma created the proper anaerobic conditions for virulent growth.

Our helplessness to prevent the fatal outcome in this case was probably due to our inability to remove the primary focus in the pelvis. In this connection, I recall a case which I observed as a resident on the orthopedic service of the Henry Ford Hospital in Detroit in 1932. The patient recovered, but it was possible to eradicate the area of infection by the prompt but radical procedure of limb amputation. This patient had had a compound fracture of the left tibia almost two months earlier and had been treated elsewhere. Inquiry revealed that she had received the usual 1,500 units of tetanus antitoxin and perfringens combined at the time of injury. She entered Henry Ford Hospital with the characteristic risus sardonicus, trismus and other signs of severe tetanus. In spite of the fact that she had been given 100,000 units of tetanus antitoxin (60,000 intravenously and 40,000 intramuscularly) in the first twenty-four hours, her condition became precarious. Her temperature rose to 103.5 F., pulse rate to 120 and respiratory rate to 28. Tetanic spasms became more frequent and severe. Dr. Roy D. McClure and Dr. Carl Badgley in consultation decided that amputation should be done at once. Although she was given more serum, recovery was rapid and dramatic. Within forty-eight hours trismus had disappeared. Soon thereafter she could swallow and speak. Recovery was complete and there was no recurrence. Historically this method is of some interest, as Larrey, chief surgeon for Napoleon, found that by amputating within the first twenty-four hours after tetanus or gangrene developed he could save some lives.

Within six years of the discovery of Cl. tetani by Nicolaier in 1884, Von Behring and Kitasato had laid the basis for antitoxic therapy for both tetanus and diphtheria. The prophylactic value was soon widely accepted, but its therapeutic worth was questioned once the trismus and spasms appeared. The death rate as well as the incidence of the disease in both civil and military life showed little change until World War II. The armed services are to be highly commended on the low incidence of tetanus in the recent war. In only 12 cases in 2,734,918 wounds did tetanus develop, and, of these, 6 patients had not received basic immunization and but 4 had been given an emergency stimulating dose. There were only 5 fatal cases. Civilian mortality from tetanus in the United States was 20 times as high in 1946 (585 cases) as it was in the armed forces during the entire course of the war (0.4 per 100,000 persons vs. 0.02 per 100,000 persons). Thus the policy of giving three doses of 1 cc. of toxoid subcutaneously at intervals of three weeks, with a stimulating dose of 1 cc. given a year later, as instituted by Long and Sartwell, was well justified and also demonstrates that tetanus is a preventable disease.

As early as 1908 Dr. Roy D. McClure and R. T. Miller,[5] on the service of Dr. Halsted, realized that the control of convulsions was almost as important as specific medication. This they accomplished by the ingenious method of injecting a 25 per cent solution of magnesium sulfate intraspinally, with excellent results. Every type of sedative has been used since, and each has its proponents. Tribromoethanol is favored by physicians who see a fair number of these cases each year. Curare in one form or another is currently popular but not harmless, as Adriani and Ochsner [6] have found.

Treatment of tetanus with penicillin, once established, was found by Altemeier [7] to be disappointing in his series of 16 cases. It seemed worthless, either as prevention or cure, in our case. In a comparative report from Puerto Rico, where tetanus is much more common than it is here, Diaz-Rivera and his associates [8] in 59 cases had a mortality rate of 17.6 per cent when penicillin was used in conjunction with antitoxin, whereas his countryman Francisco [9] reported a mortality rate of 58.1 per cent in 100 patients receiving only antitoxin. The value of sulfonamide drugs in the treatment of tetanus is only secondary, as might be expected. Their worth in vitro or as a self-sterilizing agent was disproved by the appearance of tetanus in a case in which sulfonamide powder had been used in a wound.

CONCLUSIONS

1. Massive doses of penicillin are of no avail once a toxic dose of tetanus has become fixed in the central nervous system.

2. Massive doses of antitoxin are of no avail once a toxic dose of tetanus has become fixed in the central nervous system.

3. Amputation of the affected limb, although it is a radical procedure, may be a life-saving measure in that it protects the central nervous system from being bombarded with further doses of toxin.

4. Tetanus has been proved to be a preventable disease.

Realizing this, pediatricians and practitioners the country over are actively immunizing infants against tetanus simultaneously with immunization against pertussis and diphtheria, as the development of immunity to one seems to enhance the development of immunity to the others. A year later immunity can be boosted by either toxoid or toxin. This obviates the worry that most physicians experience in trying to decide which minor injuries need antitoxin and does away with the allergic reactions which in the past were often so frequent and severe that antitoxin was omitted in cases in which physicians would have preferred to use it.

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Council on Foods and Nutrition

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VITAMIN D

PHILIP C. JEANS, M.D.
Iowa City

The term vitamin D is applied to sterol derivatives that have antirachitic properties. Although several forms of vitamin D are known, only two at present are of practical importance. It is appropriate to consider that all antirachitic drugs and foods owe this property to one or both these forms, which are known as vitamin D_2 and vitamin D_3. Vitamin D_2 is prepared by activation of ergosterol, a vegetable sterol. Vitamin D_3 results from activation of 7-dehydrocholesterol, an animal sterol. Activation is carried out by exposure to ultraviolet rays or to low velocity electrons. Vitamin D_3 is the type formed in the skin on exposure to sunshine or ultraviolet rays. The fish liver oils contain mixtures of these varieties of vitamin D. Tuna liver oil, for example, contains a preponderance of vitamin D_3 over vitamin D_2 and cod liver oil, a preponderance of vitamin D_2.

Vitamin D is present in abundance in fish liver oils and in fair amounts in the body fat of a few fish, such as salmon. Most other foods contain little or negligible amounts of vitamin D. Egg yolk may contain a substantial amount if vitamin D is present abundantly in the diet of the hen. Bovine milk and human milk contain 3 to 40 U. S. P. units of vitamin D to the quart.[1] Because vitamin D is present in such small amounts and its content is so unreliable in most foods and because exposure to sunshine, especially in cold months, is generally inadequate in this country, the requirement for this vitamin must be satisfied by medicinal preparations.

Milk fortified with vitamin D is available all over the country. Nearly all evaporated milk is fortified. The standard amount used for fortification is 400 units to the quart of fresh milk and the reconstituted quart of evaporated milk. Bread is the only other food recognized by authoritative bodies as suitable for fortification; however, relatively little bread is so fortified.

Vitamin D is available commercially in numerous types of preparations. The oldest of these, other than fish liver oils, is synthetic oleovitamin D (viosterol in oil), a product of the irradiation of ergosterol. Irradiation gives rise to several products, including calciferol, or vitamin D_2, which is present in synthetic oleovitamin D in the amount of 10,000 units to the gram. Calciferol is available also in purified form, free from the by-products of irradiation; it is available in crystalline form or in several types of solvents, including propylene glycol, which makes the vitamin dispersible in water. Vitamin D_3 is available in similar preparations—as activated 7-dehydrocholesterol, crystalline vitamin D_3 and water-miscible preparations and solutions.

The oldest of the medicinal fish liver oils is that of the cod, which is still a standard product, although it has partially been replaced by newer products. The United States Pharmacopeia minimum standard cod liver oil contains approximately 310 units of vitamin D to the teaspoon (85 units to the gram). The vitamin D content of cod liver oil marketed under trade or firm names is standardized at higher levels, some at 600 units and one at 900 units to the teaspoon.

Liver oils from several other varieties of fish are available. The one with most extensive usage is percomorph liver oil, although in most instances other fish liver oils up to the amount of nearly 50 per cent are mixed with percomorph oil and the preparation is then standardized with viosterol to contain 8,500 units to the gram. Concentrates of fish liver oils are used to some extent for fortification of milk with vitamin D.

Vitamin D is stable under common conditions of handling. It is stable to heat. Some destruction occurs with rancidity of the carrier fat. The esters are more stable than free vitamin D.[2] Premixing vitamin D with minerals for poultry feed causes rapid loss.[3] However, conditions causing loss of vitamin D usually do not prevail in its use for man.

Ingested vitamin D is absorbed with the fat of the food. Any condition that interferes with absorption of fat, such as absence of bile, decreases absorption of the fat-soluble vitamins, including vitamin D. Vitamin D, after absorption from the intestine or the skin, is stored chiefly in the liver but to some extent also in the skin, brain, spleen and bones.[4] The stored vitamin is released slowly, and its effect is apparent for a considerable time after deprivation.

While it is clear that the functions of vitamin D relate to the metabolism of calcium and phosphorus, the mechanism of its influence is not established. The chief effect of moderate amounts of vitamin D is the increase of the amounts of calcium and phosphorus retained in the body. Determination of whether or not vitamin D increases absorption is complicated by the excretion of these minerals into the intestine in the digestive juices. However, it appears certain that absorption of calcium is definitely increased by moderate amounts of vitamin D. Some question exists as to increased absorption of phosphorus, but the amount excreted in the feces is reduced. Also, vitamin D has the effect of decreasing excretion of phosphorus in the urine by increasing resorption in the tubules. When there is a deficiency of vitamin D, the amounts of both minerals are increased in the stool and the urine shows decrease in calcium and increase in phosphorus excretion. Experimental data indicate that the liver plays an important role in the antirachitic function of vitamin D.[5]

In addition to the function of maintaining calcium and phosphorus in the blood at levels suitable for deposition in bone, it has been postulated that vitamin D has a specific action at the site of deposition. Indirect evidence exists that vitamin D may act to aid conversion

From the State University of Iowa, Iowa City.

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of organic phosphorus to inorganic phosphorus at the site of deposition in bone.[6] Alkaline phosphatase may be a part of this picture. Its function is not known except that it is related to phosphorus metabolism. It can change organic phosphorus to inorganic phosphorus. Its increase in the blood is one of the first evidences of vitamin D deficiency.

Deficiency of vitamin D results in poor retention of calcium and phosphorus, which in turn may cause retarded skeletal growth. In its more severe degrees it causes rickets in those who are still growing and osteomalacia in those fully grown. In some circumstances it may result in tetany.

The rate of skeletal growth is controlled in part by the availability of calcium and phosphorus for mineralization of bone. The effect of vitamin D in regulating calcium and phosphorus metabolism and, therefore, on bone growth is particularly observable in infancy, when growth is rapid.[7] Babies receiving only the minimum amount of vitamin D for rickets prevention have average linear growth. Those who receive amounts of vitamin D that produce better calcium and phosphorus retention (300 to 400 units a day) grow at rates greater than average. Amounts of vitamin D considerably in excess of the need cause loss of appetite, decreased intake of food and, consequently, decreased total retention of calcium and phosphorus; babies with this condition grow at rates less than average.

Another effect of vitamin D deficiency has been shown by Warkany [8] for animals. It is doubtful that a similar effect occurs in man. When the mother was fed a rachitogenic diet and deprived of vitamin D, nearly half of the young were born with congenital skeletal malformations. In general, the bones were curved and shortened.

The question arises of whether a distinction between vitamin D_2 and vitamin D_3 is of practical interest in human physiology. It is known that for the chick many times as much vitamin D_2 as vitamin D_3 is required for prevention of rickets. It is known also that vitamin D_3 is more effective for the turkey poult than is cod liver oil. A distinction between the two varieties of vitamin D is of practical importance to the producer of poultry feeds. Such evidence as exists for man is still somewhat contradictory. Viosterol (D_2) has been found less effective than cod liver oil in prevention of dental caries in orphanage groups.[9] Cod liver oil has been found to produce more rapid healing of rickets in babies than did viosterol.[10] In neither study could the subjects be closely controlled. In a closely controlled inpatient study [11] of normal infants no difference was found between the two varieties when they were given as vitamin D milk and when calcium and phosphorus retentions were used as the criteria. Differences failed to appear, whether the milk contained 400 or 135 units to the quart. In another well controlled study Glaser and co-workers [12] found no difference in retentions between vitamin D_2 and vitamin D_3 in a group of prematurely born babies. It seems logical to believe that if no differences are found in calcium and phosphorus retentions, no differences exist for man between the two forms of the vitamin.

REQUIREMENT OF NORMAL INFANTS

A full term, breast-fed baby receives in his food an amount of calcium and phosphorus just sufficient to provide for good growth. Although the intake is minimum, the proportions of several of the milk constituents are such as to permit good absorption of these minerals. Also, if vitamin D is being given to the mother, the baby may receive up to 40 or more units daily in the milk. It is because of these several factors that rickets is less common in breast-fed than in artificially fed babies, even when no vitamin D is given. Nevertheless, rickets develops in some breast-fed babies, and in any case more calcium and phosphorus are retained when vitamin D is given. The requirement of the breast-fed baby is no greater, and it may be less, than that of the artificially fed baby.

When babies are fed customary formulas of cow's milk, they receive ample amounts of calcium and phosphorus. However, the proportions of other constituents are such as to interfere with absorption of these minerals unless vitamin D is given. When no vitamin D is given, the range of calcium retention is wide but the average is approximately 10 per cent of the intake. When babies are given 90 to 100 units daily (the amount obtained by young babies in vitamin D milk containing 135 units to the quart), retention is increased to 25 to 30 per cent of the intake and the range of retention values is decreased, rickets is prevented and linear growth is average. With 300 to 400 units daily as cod liver oil or milk containing vitamin D, calcium retention is increased to between 35 and 40 per cent of the intake, the range of retention values is further decreased and linear growth is greater than average. Increase of the amount of vitamin D above 400 units has no effect in increasing the percentage of intake retained.[13]

When 800 units of vitamin D are given daily, the effect on retention and growth is identical with that of 300 to 400 units. As the amount of vitamin D is increased further, the percentage of calcium intake retained remains the same, but with amounts of 1,800 or more units daily appetite is decreased after several months, food intake is smaller and, consequently, the total calcium retention is less. Linear growth then becomes retarded.[7b] Thus, mildly toxic effects occur with what is commonly prescribed and considered a reasonable and harmless prophylactic dosage.

Some evidence exists that concentrates of vitamin D in solution in oil are not so well utilized by infants as

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are the more dispersed forms. The concentration present in cod liver oil allows good utilization.[14]

Rickets prevention by the administration of a single massive dose of vitamin D has had a number of advocates. The practice had its start in Germany. The earliest reports in this country were those of Zelson,[15] Wolf[16] and Rambar and co-workers,[17] although Vollmer[18] previously had reported such practice in the treatment of rickets. The dose most commonly used is 500,000 to 600,000 units, given either orally or parenterally. The antirachitic effect lasts about four months in nonrachitic infants[19] and two to three or more months in rachitic infants.[20] Thus rickets can be prevented by giving 600,000 units three times a year. Claim has been made that vitamin D in this amount is harmless. Palmén[21] gave 500,000 units of vitamin D_2 to 7 nonviable newborn infants. Subsequent examination showed no changes in the kidneys, adrenals, liver, spleen, aorta or heart. He gave the same massive single dose to 200 prematurely born infants without producing any clinically demonstrable injury. Krestin[22] gave 300,000 units orally to 93 infants under 2 years of age during the winter months; of these 90 remained free from rickets. Jelke[23] reported prophylactic administration to a 9 month old baby of four doses of 500,000 units each at two month intervals. Anorexia was noted after the second dose and greater anorexia after the third dose. The anorexia lasted two weeks. No physical damage was found.

Houet[24] has reported balance studies of 5 normal and 4 rachitic infants after they had received 15 mg. of vitamin D either orally or parenterally. In general, the calcium retentions of the healthy infants remained relatively unchanged as a result of the medication. The phosphorus retentions decreased in 3 of the 5 normal babies and remained at a lower level throughout the period of observation, which was short. These studies seem to show that there is no immediate ill effect from the prophylactic use of 15 mg. of either vitamin D_2 or D_3. The studies probably are not conclusive. It appears true that deleterious effect, if any occurs, is moderate and curable. More data, covering a longer period, are needed to determine the advisability of this method of prophylaxis. Does anorexia resulting in intake lowered enough to affect retentions and growth subsequently develop in babies treated in this manner?

The general consensus has been that the requirement of the prematurely born baby for vitamin D is greater than that of the baby born at term; yet no evidence for the opinion exists. It is known that babies born prematurely develop rickets more often than those born at term, but the difficulty lies in a deficiency of calcium and phosphorus rather than in an increased need for vitamin D.[25] In fetal life the bones are mineralized during the last three months. A baby born one month prematurely has only about half the amount of calcium he would have if he had been carried to term. Thus the premature baby starts postnatal life with a large handicap in bone mineralization. Furthermore, he has a small capacity for food, whereas the need for food is relatively great if growth expectations are to be met. While human milk contains enough calcium and phosphorus to supply the needs of the baby born at term, the amount is inadequate for the premature baby. Administration of vitamin D will not make up for this deficit in mineral. Davidson and Merritt[26] found rickets in premature babies who had received large amounts of vitamin D. If human milk is used, it must be fortified with dried skimmed milk, or some special provision must be made to supply the increased need. When the calcium and phosphorus requirement is supplied, the need of the prematurely born baby for vitamin D is the same as that of the baby born at term. This concept was confirmed by Glaser and co-workers,[12] who found that doses of 100 and 800 units of each of four preparations of vitamin D were effective in preventing rickets and permitting normal growth. They found as good calcium retention with 200 units of vitamin D as with 400 or 800 units. They found also that vitamin D_2 gave the same results as vitamin D_3.

REQUIREMENT OF CHILDREN

The fact that children past infancy need vitamin D is often overlooked. A few children have good utilization of calcium and phosphorus without additional vitamin D, but there is no simple way of recognizing such children. For this reason it is appropriate for all children to have a vitamin D supplement. The need of the child for vitamin D has been shown by the observation of retentions of calcium and phosphorus with and without the vitamin. Also, Follis and co-workers[27] found histologic evidence of rickets in nearly half the children from 2 to 14 years of age seen at autopsy in a Baltimore hospital; in these instances the relative roles of vitamin D deficiency and mineral deficiency are not too clear. Again it is to be emphasized that intake of vitamin D will not compensate for a low calcium intake.

The requirement of children for vitamin D has not had as much detailed study as has that of infants.

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However, it is known that 300 to 400 units daily permits satisfactory calcium and phosphorus retentions when the diet contains appropriate and recommended amounts of these minerals.[28]

During the prepubertal growth acceleration period and during adolescence the need for vitamin D is more universal than it is for the younger child past infancy. During this period there is also a need for a greater intake of calcium than previously. With an intake of recommended amounts of calcium and phosphorus, 400 units of vitamin D permits good retention of these minerals if the nutrition of the child is otherwise satisfactory. Children who have had poor diets often fail to have good retention of calcium and phosphorus when first given a good diet. After several months of a good diet, retentions gradually increase to the expected level without increase in vitamin D above 400 units daily.

REQUIREMENT OF ADULTS

After growth has ceased the need for vitamin D is minimum except during lactation and the latter part of pregnancy. McKay and co-workers,[29] in a study of young women with a well selected diet, found that the addition of 500 units of vitamin D daily had little influence on calcium retention, in comparison with the same diet without supplemental vitamin D. Other evidence indicates that vigorous adults leading a normal life have little need for vitamin D. However, it is believed desirable that small amounts be given to those whose habits shield them from sunlight. Osteoporosis is common in the elderly. Several possible causes have been postulated, and perhaps the causes are multiple. Until the cause is more definitely determined, a small amount of vitamin D seems indicated.

During lactation and the latter part of pregnancy the need for calcium and phosphorus is greatly increased. During these periods supplemental vitamin D increases utilization. The optimum amount is not known, but the calcium and phosphorus retention values observed with a high vitamin D intake are no greater than those observed with a moderate intake. From available evidence it seems likely that 400 units daily is adequate.

VITAMIN D THERAPY

The chief therapeutic use of vitamin D is in the treatment of rickets. Because of widespread prophylaxis, clinically detectable rickets is relatively uncommon in this country. Deficiency of vitamin D of a degree sufficient to cause rickets produces characteristic values for the amounts of calcium, phosphorus and phosphatase in the blood; in the blood serum the amount of calcium is normal or slightly lowered; the amount of inorganic phosphorus is much decreased, and the amount of phosphatase is increased. The rachitic changes in bone are caused chiefly by the decrease in inorganic phosphorus and the disproportion between the calcium and phosphorus available. An early effect of vitamin D therapy is an increase in serum phosphorus. This increase is followed by mineral deposition in bone and eventual healing of the rachitic changes, if vitamin D therapy is continued. The amount of phosphatase decreases soon after treatment is started, but it remains moderately elevated until healing is advanced and is the last of the blood values to become normal.

An amount of vitamin D that will just prevent rickets will also cause healing, but the process is much slower than if larger amounts are given. Amounts recommended for treatment vary widely. One thousand units daily will produce normal calcium and phosphorus values in the blood in approximately ten days and healing changes in the bones detectable by roentgenograms in about three weeks. One thousand units daily is the minimum recommended therapeutic dose.[30] Three to four thousand units daily is often prescribed, and, with this amount, healing is more rapid. In most instances no need exists for a larger amount or for more rapid healing of rickets. The amount of vitamin D should be reduced to normal prophylactic dosage as soon as the rickets is under control.

Single massive doses, for example 600,000 units, have been used for treatment, with favorable results reported.[31] Such treatment is justifiable only when circumstances are unfavorable for daily ingestion of more moderate doses. Healing of rickets seems to be no more rapid with the massive dose than with the daily moderate dose.

In the preceding discussion it is stated that an early effect of vitamin D therapy of rickets is an increase in serum phosphorus and deposition of mineral in bone. Early in this course a lowering of the calcium content of the blood occurs, but this decrease is transitory and unimportant if vitamin D therapy is continued. However, if the initial amount of vitamin D is minimum and its administration is stopped early, the blood calcium may decrease to a low level, resulting in tetany. As far as vitamin D is concerned, the treatment of rachitic tetany is the same as that for rickets. During the period of approximately ten days required for restoring calcium and phosphorus values in the blood to normal, other measures of control of the symptoms of tetany are indicated. These may include intramuscular administration of magnesium sulfate or oral administration of calcium chloride or both.

Clinically recognizable rickets from vitamin D deficiency after infancy is most uncommon in this country. If it should occur, the treatment is the same as that for infantile rickets. Advanced and easily recognizable rickets occurs in childhood from other causes. One such cause is chronic nephritis with failure of phosphorus excretion and usually subsequent resulting changes in calcium metabolism. Another cause is the Fanconi syndrome, in which the primary lesion appears to be in the function of the kidney tubules, because of which several materials are abnormally excreted in the urine, including increased amounts of phosphorus. In these cases inorganic phosphorus in the serum is low. Vitamin D therapy will cure neither of the preceding conditions.

Another type of rickets is known as resistant rickets. It is characterized by a low level of serum phosphorus for which no satisfactory explanation has been found. In the treatment of this type of rickets vitamin D is most useful, but not when given in amounts customary for the treatment of rickets of vitamin D deficiency. In order to provide beneficial results the doses of

28. Jeans, P. C., and Stearns, G.: The Human Requirement of Vitamin D, J.A.M.A. **111**:703 (Aug. 20) 1938.

29. McKay, H.; Patton, M. B.; Pittman, M. S.; Stearns, G., and Edelblute, N.: The Effect of Vitamin D on Calcium Retentions, J. Nutrition **26**:153 (Aug.) 1943.

30. Park, E. A.: The Therapy of Rickets, J. A. M. A. **115**:370 (Aug. 5) 1940.

31. Krestin, D.: Treatment of Rickets with Single Massive Doses of Vitamin D, Lancet **248**:781 (June 23) 1945.

vitamin D must be large, often so large that close observation is required to prevent serious toxic effects. The amount required varies with the child, the range being commonly 50,000 to 500,000 units daily. The finding of the proper dose is a trial and error procedure and often the requirement seems not to remain constant.

Vitamin D is sometimes used in the treatment of hypoparathyroidism. Perhaps more often dihydrotachysterol, a related product, is used for this purpose although vitamin D_2, and probably vitamin D_3 also, has identical effects in the treatment of this condition. The doses required are large, and close observation of the level of calcium in the serum is required. The daily amount required for maintenance varies from person to person, but usually is in the range of 0.6 to 1.0 mg. of dihydrotachysterol or 3 to 5 mg. (133,000 to 200,000 units) of vitamin D. This type of treatment usually is initiated with amounts at least three times as large as the maintenance dose; the amount is decreased to maintenance dose when the level of calcium in the serum reaches normal. The action of the parathyroid hormone is different from that of vitamin D in customary prophylactic amounts. The hormone acts to maintain normal calcium values in the serum and at the same time decreases resorption of phosphorus by the kidneys. Vitamin D in moderate amount acts to maintain normal inorganic phosphorus values in the serum and increases resorption of phosphorus by the kidneys. However, vitamin D increases the calcium level in plasma when "toxic" doses are given. Both substances, when vitamin D is given in large amounts, remove calcium and its associated minerals from the stores in bone.

Several patients with other diseases have been reported as being benefited by massive doses of vitamin D. These include patients with chronic arthritis, psoriasis, pemphigus and allergic conditions. These reported good results have not been confirmed adequately, and it is believed that the evidence does not warrant the claim that vitamin D is beneficial.

HYPERVITAMINOSIS D

Massive doses of vitamin D have been given to persons of various ages for various reasons, particularly in the treatment of chronic arthritis. In some reported instances large doses have been given to infants, sometimes through error on the part of the mother. Many instances of the toxic effects of large amounts have been recorded. The amount that is toxic varies in different persons and even at different times in the same person. Some adults show symptoms of toxicity with 150,000 units daily or even less.[32]

Several symptoms and findings are common to most cases of intoxication. Frequent among the early symptoms are anorexia, thirst, lassitude and urinary urgency with or without polyuria. Later symptoms include nausea, vomiting, diarrhea and abdominal discomfort. The increased excretion of calcium in the urine may cause calcium deposits in the kidneys with resulting kidney damage and decreased renal function. Anorexia, nausea and vomiting lead to weight loss and subsequent debility, and damaged cells in various organs, arteries and arterioles become the repository for calcium salts. While these changes usually accompany hypercalcemia and hyperphosphatemia, it has been shown in dogs that metastatic calcification can occur without increase in the level of calcium in the blood.[33] If hypervitaminosis continues, the various changes lead to death.

An additional finding in the hypervitaminosis D of infants and growing children is a dense deposition of mineral in the zone of provisional calcification in the metaphyses of long bones. This deposition is made at the expense of the diaphysis.

Vitamin D is stored in the body, and the effects of excessive dosage may be expected to be cumulative. Frost and co-workers[32a] reported continued hypercalcemia, high urinary excretion of calcium and persistence of renal damage eight months after stopping treatment with 125,000 units of vitamin D daily.

32. (a) Frost, J. W.; Sunderman, F. W., and Leopold, I. S.: Prolonged Hypercalcemia and Metastatic Calcification of the Sclera Following the Use of Vitamin D in the Treatment of Rheumatoid Arthritis, Am. J. M. Sc. **214**:639 (Dec.) 1947. (b) Covey, C. W., and Whitlock, H. H.: Intoxication Resulting from Administration of Massive Doses of Vitamin D with Report of 5 Cases, Ann. Int. Med. **25**:508 (Sept.) 1946.

33. Bauer, J. M., and Freyberg, R. H.: Vitamin D Intoxication with Metastatic Calcification, J.A.M.A. **130**:1208 (April 27) 1946.

Council on Physical Medicine and Rehabilitation

REPORT OF THE COUNCIL

The Council on Physical Medicine and Rehabilitation has authorized publication of the following reports.

HOWARD A. CARTER, *Secretary.*

DeVILBISS POCKET ATOMIZER NO. 33 ACCEPTED

Manufacturer: The DeVilbiss Company, 300-306 Phillips Avenue, Toledo 1, Ohio.

The DeVilbiss Pocket Atomizer No. 33 consists of four thermoplastic parts and a bulb assembly. A cap liner and gasket, made of oil-resistant inert material, seal the various parts to prevent leakage. The firm states that the thermoplastic material was selected for resistance not only to breakage but also to interaction with chemicals commonly used in medicinal preparations and that evidence has been obtained to show that medicines will not affect the container nor be affected by it.

DeVilbiss No. 33 Pocket Atomizer

On the basis of satisfactory evidence that the atomizer operates as claimed, the Council on Physical Medicine and Rehabilitation voted to include the DeVilbiss Pocket Atomizer No. 33 in its list of accepted devices.

NEWMAN EXPANSOMETER ACCEPTED

Manufacturer: Burton Manufacturing Company, 11201 West Pico Boulevard, Los Angeles 34.

The Newman Expansometer is a device designed for use in measuring the chest expansion of patients, especially patients in whom there is unequal movement of the two sides. It consists of two steel tapes 36 inches (91 cm.) long mounted in a handy plastic case, the two tapes being attached to a pivot with swivel joints. It is graduated in inches. The unit is of convenient pocket size. When packed for shipment it makes a package measuring 5 by 5 by 15 cm. (2 by 2 by 6 inches) and weighing 140 Gm. (5 ounces).

Newman Expansometer

Evidence was obtained that this device was useful clinically, and the Council on Physical Medicine and Rehabilitation voted to include the Newman Expansometer in its list of accepted devices.

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SATURDAY, MAY 13, 1950

THE POSTPHLEBITIC SYNDROME

The persistence of symptoms and the disability caused by the postphlebitic syndrome are frequently more serious than the originating thrombosis. The underlying cause of this circulatory disturbance of the lower extremity is venous hypertension due to incompetent valves of the deep, the communicating and the superficial veins of the leg. The symptoms are persistent edema, induration, bursting pain, varicosities, pigmentation, ulceration and recurrent streptococcic infections.

With the aid of venography Bauer [1] demonstrated valvular incompetence of the femoral and the popliteal veins in 55 of 100 consecutive cases of varicosities and leg ulcers. The remaining 45 patients presented prominent varicosities and a positive Trendelenburg reaction but no edema or leg ulcers. The phlebograms in these patients indicated normal femoral veins. The past history of 55 patients in Bauer's material revealed a previous deep thrombosis in 25 and absence of such a history in 30. Bauer concluded that a congenital weakness of vein walls is probably the responsible factor in this latter type of patient.

The originating thrombophlebitis in 246 cases studied by Ochsner and his co-workers [2] occurred postoperatively in 30.9 per cent and post partum in 16.3 per cent; it followed a severe infection such as typhoid or pneumonia in 15.9 per cent. In 12.2 per cent it occurred spontaneously and in 11.8 per cent without known etiologic basis; in 9.3 per cent it followed trauma, and in 3.7 per cent it began as a thrombophlebitic process in varicose veins.

Persistent postphlebitic edema, in the opinion of Ochsner and his co-workers, is caused by persistent vasospasm in a thrombosed vein, increased venous pressure due to valvular incompetence of the deep veins or extensive perivenous cicatrix.

The postphlebitic syndrome in its milder manifestations can be successfully treated by conservative measures directed toward relief of the edema and treatment of the affected skin. These measures consist of temporary rest in bed, elevation of the extremity and proper bandaging of the limb when the patient is ambulatory. The condition of the skin requires both prophylactic and active treatment. Actual ulceration calls for bacteriologic studies and the internal and external administration of appropriate drugs. Homans was first to differentiate between simple varicose ulcers and the postphlebitic ulcer. He proposed a radical excision of the ulcer and of the surrounding pathologic skin and subcutaneous tissues, including the deep fascia, with the application immediately of a split-thickness graft. Ulcerations characterized by bursting pain responded well to repeated lumbar sympathetic blocks. Even better results are obtained by lumbar sympathectomy. Ochsner [2] reported excellent results with lumbar sympathectomy in mild and moderately severe cases. This procedure is indicated particularly for the late and the obstinate cases. Homans was of the opinion that a thrombosed femoral vein had no functional value. He advocated ligation of both the saphenous and the femoral vein. Buxton and his co-workers [3] were the first to report interruption of the femoral vein as a method of treating post-thrombotic ulcerations. Homans in 1945 and in 1946 [4] recommended the interruption of the saphenous and the femoral veins in the post-thrombotic extremity with decided venous congestion. Linton and Hardy [5] advocated interruption of the femoral vein distal to the profunda femoris branch and ligation and stripping of the long saphenous vein and the short saphenous vein if varicosed.

Bauer [1] believed that the logical treatment of pronounced stasis phenomena in the leg was interruption of the popliteal vein. Chronic edema or skin changes are never observed in the thigh regardless of the condition of the femoral vein. New and fully sufficient pathways for the venous return flow are found in this region, probably because abundant muscle veins will at all times offer material for the construction of such pathways. The lower leg has much poorer opportunities in this respect, because all the returning blood must pass a potential bottleneck at the level of the knee joint. At this level there exists only one large caliber vein, the popliteal. If the big vein becomes incompetent the circulation in the lower leg is compromised. Interruption of the popliteal vein is a remedy for this condition.

1. Bauer, G.: The Etiology of Leg Ulcers and Their Treatment by Resection of the Popliteal Vein, J. internat. chir. 8:937-967 (Sept.-Oct.) 1948.

2. Ochsner, A.; DeBakey, M.; DeCamp, P. T., and others: Postphlebitic Syndrome: Treatment by Conservative Measures, Sympathectomy and Other Operative Measures, Surgery 27:161-182 (Feb.) 1950.

3. Buxton, R. W.; Farris, J. M.; Moyer, C. A., and Coller, F. A.: Surgical Treatment of Long-Standing Deep Phlebitis of the Leg: Preliminary Report, Surgery 15:749-756 (May) 1944.

4. Homans, J.: The Late Results of Femoral Thrombophlebitis and Their Treatment, New England J. Med. 233:249-253 (Aug. 22) 1946.

5. Linton, R. R., and Hardy, J. D., Jr.: Postthrombotic Syndrome of the Lower Extremity: Treatment by Interruption of the Superficial Femoral Vein and Ligation and Stripping of the Long and Short Saphenous Veins, Surgery 24:452-468 (Sept.) 1948.

The early recognition of thrombosis in the veins of the lower limbs and their active treatment by surgical procedures as well as by anticoagulants will probably have a definite influence on lowering the incidence of the development of the end stage of the disease, the postphlebitic syndrome. The applicability of these measures to the treatment of venous thromboses of such varied causation as trauma, operation, childbirth, cardiac and severe infectious disease remains to be determined.

PHEOCHROMOCYTOMA AND HYPERTENSION

Pheochromocytoma, the chromaffin cell tumor of the adrenal medulla, should be considered in all cases of hypertension. The result of its removal, before irreversible cardiovascular damage is caused, is dramatic and life-saving. Emphasis must be placed on the clinical diagnosis, for up to the present it has been diagnosed principally post mortem. Smithwick and others [1] emphasize that the symptoms, signs and diagnostic phenomena are recognizable by physicians. In practically every case of pheochromocytoma at least three or four of the important observations may be present. It is believed that if the data were obtained regularly in hypertensive patients diagnosis of the condition would seldom be overlooked.

Paroxysmal attacks of hypertension are characteristic. However, it is important to realize that these are not present in more than 30 per cent of patients and that some are said to have them in the absence of pheochromocytoma. Characteristic paroxysms last minutes to hours, tend to increase in frequency and are often precipitated by emotion, pressure over the tumor, straining or lying in certain positions. Some commonly associated symptoms are headache, palpitation, pain in the abdomen, chest, back or extremities, nausea, vomiting, drenching sweats and exhaustion. A history of excessive sweating is important. It frequently occurs alone. Vasoconstricting phenomena, such as coldness of hands and feet, blanching of fingers and mottled bluish discoloration of legs or hands, are important. In the cold-pressor response, the great majority of hypertensive patients have an excessive rise in blood pressure after immersing a hand in ice water one minute. Elevated pressures of 20 mm. in systole and 15 mm. in diastole are considered abnormal. As a differential point, a normal response is common in patients with pheochromocytoma. An additional aid is the new sign of postural tachycardia and hypotension. In the upright position the systolic and diastolic pressure of ordinary hypertensive patients does not commonly fall below the levels in the horizontal position. Similarly, the pulse rate does not rise over 20 or more beats per minute. However, most patients wth pheochromocytoma have postural tachycardia and, in addition, about half of these have postural hypotension. An intermittent elevation of the body temperature, not necessarily related to paroxysmal symptoms, is found in over 70 per cent of these patients. It seems advisable to obtain the temperature rectally at intervals over a forty-eight hour period. The simple determination of blood sugar is useful. A level over 120 mg. per hundred cubic centimeters is significant. This occurs with greater frequency in this condition than in essential hypertension. Glycosuria may also be found with or without increased blood sugar. An increased basal metabolic rate of + 20 per cent is frequent in these cases.

If these items—paroxysmal attacks of hypertension, excessive sweating, peripheral vasomotor phenomena, a normal cold-pressor response, postural tachycardia and hypotension, elevation of temperature, blood sugar and basal metabolism—are considered, the diagnosis of pheochromocytoma will not be overlooked. These phenomena may be attributed to the increased amount of epinephrine circulating in the body.

1. Smithwick, R. H.; Greer, W. E.; Robertson, C. W., and Wilkins, R. W.: Pheochromocytoma: Medical Progress, New England J. Med. 243: 252, 1950.

Current Comment

WASHINGTON NEWS

The "Washington Letter" that has appeared in THE JOURNAL for some years is replaced in this issue (page 185) by a new column known as "Washington News." There is increasing interest in activities in Washington and in the stand of the American Medical Association on many legislative proposals. "Washington News" will be a factual report on the Washington scene. It will not editorialize, nor will it serve as a "rumor mill." It will include medical news from government bureaus and departments and legislation of medical importance. As the need for interpretation arises, appropriate comment will be included. However, the column is intended only to be informative. Unless so stated, an official opinion of the Association should not be read into any statement in the column.

TELEVISION HEALTH EDUCATION

Another outstanding example of how television can be utilized by the medical profession as a health education medium and as a means of promoting good public relations is provided in a release from the Educational Committee of the Illinois State Medical Society. For fourteen months that society has presented weekly programs over WGN-TV, Chicago, providing valuable interpretations of health subjects for public consumption. During the course of this project the programs have been cited frequently by lay commentators for their informative qualities. As a result of the prominence the programs have attained, the society was invited to repeat the program it presented on the subject of anesthesia. Through the cooperation of the Ohio

State Medical Association, the cast, apparatus and other visual material employed originally were taken to Columbus, Ohio, for the show, which was given as a feature of the annual Institute for Education by Radio held May 4-7. Television is still a new field, but it is not too early for medical societies in even relatively small cities to give serious thought to future developments in order that they may be prepared when the opportunity presents. A booklet providing basic information on this subject is available from the Bureau of Health Education at A. M. A. headquarters. Single copies can be obtained free of charge when requested on official stationery.

PROTEIN STORES IN MAN

According to the concepts proposed by Whipple [1] and Schoenheimer [2] the proteins of the body exist in dynamic equilibrium with the plasma proteins. Attempts have been made to evaluate the status of protein nutrition in human subjects by studying the plasma protein concentration. In general, however, this approach has not been fruitful, since there are many factors in the body which tend to maintain constant the protein concentration of the plasma in the presence of various types of stresses. In the past, other experimental approaches to evaluate the protein stores in man have been suggested. Deuel and his co-workers [3] proposed a scheme in which the increase in urinary nitrogen following an injection of thyroxine was believed to be related to the degree of protein stores. The subject for this study had been previously maintained on a protein-free diet until the urinary nitrogen loss became constant. Later, Localio and associates [4] evaluated the protein reservoir in surgical patients by determining the nitrogen content of the rectus abdominalis fascia, the protein content of this tissue being considered an index of the body protein stores. A good correlation was noted between the protein content of this tissue and the absence of surgical complications, but the procedure has the disadvantage of forcing the patient to submit to surgical treatment before the evaluation of the protein reserves is possible. Recently Harroun, Smyth and Levey [5] proposed a method of estimating protein stores in human subjects which has many points of interest, among which is the ease and simplicity of the determination. In this procedure, the total circulating protein was determined before and after a rapid intravenous infusion of 1 liter of isotonic sodium chloride solution. The total circulating protein is the resultant of multiplying the plasma volume by the protein concentration of the plasma expressed as grams per milliliter. The saline infusion increases the plasma volume under these conditions, and with this stimulus there is a migration of protein either into or out of the vascular bed. In the case of the 6 normal persons studied, who had adequate protein stores, there was in all cases an increase in total circulating protein after the saline infusion. This was explained by a shift of protein from the labile protein reserves into the blood stream. On the other hand, the 8 undernourished persons, who lacked adequate protein stores as judged by weight loss and history of poor dietary intake with signs of vitamin deficiencies, lost protein from the vascular system under identical conditions. Apparently protein is lost along with the injected sodium chloride solution in undernourished subjects. The change in total circulating protein and not its absolute amount was the factor which could be correlated with the amount of labile protein reserves. The actual amount of total circulating protein like the concentration of protein itself may mask a state of undernutrition. There are many conditions in which the objective evaluation of protein reserves of man would be of practical importance. Increasing the armamentarium of medicine with more objective tests will undoubtedly increase the effectiveness of the various procedures now in use.

1. Whipple, G. H., and Madden, S. C.: Hemoglobin, Plasma and Cell Protein, Their Interchange and Construction in Emergencies, Medicine **67**: 673, 1944.

2. Schoenheimer, R., and Rittenberg, D.: A Study in Their Intermediary Metabolism of Animals with the Aid of Isotopes, Physiol. Rev. **20**: 218, 1940.

3. Deuel, J. H., Jr.; Sandiford, I.; Sandiford, K., and Boothby, W. M.: A Study of the Nitrogen Minimum: Effect of Sixty-Three Days of Protein-Free Diet on Nitrogen Partition Products in the Urine and on Heat Production, J. Biol. Chem. **16**: 301, 1937.

4. Localio, S. A.; Chassin, J. L., and Hinton, J. W.: Tissue Protein Depletion: A Factor in Wound Disruption, Surg., Gynec. & Obst. **86**: 107, 1948.

5. Harroun, J. E.; Smyth, C. J., and Levey, S.: Tissue Protein Studies in Normal and Undernourished Males: Changes in Total Circulating Protein After an Intravenous Saline Infusion as an Index of Protein Stores, J. Clin. Investigation **29**: 212, 1950.

DIFFERENCES BETWEEN PERIPHERAL AND HEART BLOOD

Quinby,[1] Nichols [2] and their associates have called attention to alleged quantitative differences between peripheral blood and blood drawn directly from the heart. Additional evidence in support of such differences is currently reported by Roofe [3] and associates of the Department of Anatomy, University of Kansas. Comparisons were made on 56 normal guinea pigs. A nick was carefully made in one ear of each animal so as to sever the marginal vein. The first blood was wiped off, and counts were made from the freely flowing wound. Afterward blood was drawn by a syringe directly from the heart. The average count of the 56 peripheral blood samples was 6,269,000 red cells per cubic millimeter. The average of the heart blood was but 5,499,000 red cells per cubic millimeter, or 88 per cent of the peripheral average. In the same samples the white cell counts were 7,558 and 5,763, respectively, the heart-drawn white cell count being but 75 per cent of the peripheral white cell count. Differential leukocyte percentages were identical. Quantitative plasma differences were not reported. No theory was suggested to account for the observed differences.

1. Quinby, F. H.; Saxon, P. A., and Goff, L. G.: Science **107**: 447, 1948.

2. Nichols, J., and Miller, A. T., Jr.: Science **108**: 379, 1948.

3. Roofe, P. G.; Latimer, H. B.; Madison, M.; Maffei, M., and Wilkinson, P.: Science **111**: 337, 1950.

WASHINGTON NEWS

Medical Legislation

Important Bills

Although the Senate and House are occupied with such major legislation as the Economic Cooperation Administration and appropriations, committees are finding time to look into a wide range of bills of direct and indirect interest to the medical profession. Even the sponsors concede that much of this legislation will not progress this session, but they are anxious for public hearings to prepare the way for next year.

However, at least four important bills, already approved by the Senate, conceivably could be enacted if the House clears sufficient time to consider them. They are:

S. 522, providing for federal assistance in establishing and maintaining local public health units. The American Medical Association has actively supported this bill.

S. 1453, which would provide federal assistance to medical education. The Association opposed this bill originally because it gave the surgeon general too much power and because it pointed toward federal control and influence over medical schools. The bill has been amended extensively, but the A. M. A. has not passed on the new draft.

S. 1411, which would set up a program for medical care of school-age children. The Association opposes this bill because it provides free medical treatment to all children, without regard to parents' ability to pay for the treatment.

Another bill with important medical interest, H. R. 6000 for extension of Social Security has received final approval from the Senate Finance Committee. It has passed the House in different form. The Senate Committee turned down the House plan for setting up a permanent and total disability insurance program, which American Medical Association had opposed. For the next few weeks, these four are important bills to watch.

Veterans Administration Staff

Administrator Carl Gray apparently is now able to keep the Veterans Administration medical staff intact. Here is what happened: Last summer Mr. Gray decided to overstaff professional medical personnel in preparation for the opening of new hospitals in the next two years, although extra money for this purpose was not provided in the budget. Shortly after the first of the year the VA budget was tightened up and a reduction in force was ordered, affecting, among others, several hundred physicians. However, before discharge slips went out Mr. Gray rescinded the order as regards professional personnel. He ran the risk of having to effect still more drastic reductions later in the year if he could not prevail on the Budget Bureau and Congress to see the problem his way. The Budget Bureau studied the situation for several weeks, but finally approved an additional $2,191,000 for the Veterans Administration's use this fiscal year. It is unlikely that Congress will reverse this decision. However, Mr. Gray still has to get his budget increased for the fiscal year beginning July 1, 1950, or he will have to face the same problem a year from now.

Social Security

The Senate Finance Committee put in four months of intensive work on the enormously complicated Social Security Extension Bill (H. R. 6000) before reaching agreement on major provisions. Its decision to drop the section on permanent and total disability was announced in a simple statement that the Senate committee was not adopting this provision of the House bill. The American Medical Association had actively opposed this section (but not the whole bill) for these reasons:

1. Determination of disability would necessarily strain the relations of doctor and patient.
2. Disability benefits of this kind would promote malingering by patients and discourage their will to get well.
3. Coverage inevitably would be extended, resulting in expansion of socialized medicine.

For the medical profession, two additional decisions of the Senate committee are important: In one, the committee voted to exclude from social security coverage "physicians, lawyers, dentists, osteopaths, chiropractors, optometrists, Christian science practitioners, naturopaths, professional engineers, veterinarians and architects." Another decision of the Senate committee would make coverage optional with some hospitals and mandatory with others. The test is whether the hospital is "owned and controlled" by a religious denomination. If it is a religious hospital under this definition, coverage would be optional on the part of the hospital management. If it is nonprofit and not a religious hospital, coverage would be mandatory, with both employees and employer contributing on the basis of payroll. While the Senate bill would extend coverage to fewer persons than would the House bill, the former provides substantially increased monthly benefits. For this reason, prospects are that the House will be willing to accept most Senate provisions, although there is still plenty of time for change and compromise.

Draft Extension

The outlook for members of reserve components of Army, Navy and Air Force has been considerably clarified. Early in the session, indications were that the present draft law would be allowed to expire this summer. A tightening of the international situation, however, has resulted in a change in this congressional attitude. Chairman Carl Vinson (Democrat, Georgia) of the House Armed Services Committee sponsored and won committee approval of an amendment to the draft extension bill (H. R. 6826). Under it the law would be extended for two years, but with these two important restrictions on the President's powers as commander in chief: 1. Registrations would be authorized, but inductions would have to be held up until they had been authorized by a joint concurrent resolution of Congress. 2. Reserve officers could not be required to go on active duty until Congress had given similar approval. From the point of view of national defense, the intent of the amendment is to keep draft boards and the rest of the selective service structure in operation, thereby avoiding a delay in the event of an emergency. There is reason to believe that the amended bill, or one similar to it, will be passed this session.

Hill-Burton Act

Public Health Service officials advise that overoptimism on the part of state hospital administrators is one major cause of the difficulties and misunderstandings this spring under the Hill-Burton Hospital Construction Act. The basic law states that authorizations of $150,000,000 may be voted each year to help finance hospital construction. This figure, officials emphasize, is merely a maximum and a guide; the actual authorizations must be approved by Congress each year. However, the Public Health Service reports that too many state officials anticipate that authorizations always will be at this rate and plan accordingly. This situation came to the surface when the House Appropriations Committee this year recommended $75,000,000, or half the amount it could have approved under the basic law. The House subsequently raised this figure to $150,000,000, but the same situation might arise any year.

Report of Defense Department

Military medical organizational changes, designed to effect economies and to bring about greater unification of the services, are set forth in the Defense Department's semiannual report. Here are a few highlights from the report: In the last six months of 1949, 44 treatment facilities were closed out, resulting (with other economies) in a saving of 3,419 operating beds. ——All Army hospital ships and trains have been discontinued; except in unusual circumstances, military patients now are transported by air.——A Defense Department committee is still studying the question of continuing free medical care to military dependents.——The Army's ratio of beds to troop strength has reached a record low, and so has its sickness rate.

ORGANIZATION SECTION

State Legislation

Massachusetts

Bills Introduced.—H. 2446, to amend the law relating to physical examinations of school children, proposes to require the board of health in certain communities to cause all school children to be examined periodically for defects in sight or hearing and other defects which might prevent them from receiving the full benefit of their school work. Children who hold a certification from a practicing physician to the effect that all the requirements of the department of education and the department of public health have been complied with may be excused from this examination. Also to be excused from the examination would be any child presenting a written request from his parents that they desire the examination not to be made on religious grounds. The tests of sight and hearing would be made by teachers under directions prescribed by the department of public health. H. 2462 proposes the creation of a special commission to make an investigation and study relative to the establishment of a board of registration of physical therapists and regulating the practice of the profession of physical therapy. H. 2476 proposes the establishment of a university to teach, among other things, medical sciences.

Bill Enacted.—H. 2265 has become chapter 11 of the Resolves of 1950. It provides for the creation of a commission to make an investigation and study relative to high blood pressure.

Michigan

Bills Introduced.—H. 23-X proposes provisions for the treatment and rehabilitation of isobriates. S. C. Res. 14-X proposes the creation of a committee to study the mental health program in the state. S. C. Res. 15-X proposes the creation of a committee to study problems relative to unemployment insurance. S. C. Res. 18-X proposes the creation of a special committee to investigate the establishment of an equitable basis for state payment to hospitals for services rendered to crippled and afflicted children. S. 23-X proposes the establishment of a psychiatric and diagnostic clinic under the supervision and direction of the state department of corrections to study, examine, diagnose and treat the physical and mental condition of persons committed to state prisons for sex offenses.

Mississippi

Bills Enacted.—H. 302 was approved April 4, 1950. It amends the law relating to coroners by authorizing any coroner to order an autopsy on the body of a deceased person on written motion of the county prosecuting attorney or the district attorney. Such autopsy shall be performed by a qualified surgeon or physician. S. C. Res. 36 was adopted April 10, 1950. It memorializes the Congress of the United States not to enact any proposed legislation which will bring the practice of medicine under federal direction and control, either through a form of compulsory insurance or any system of medical care designed for national bureaucratic control.

New Jersey

Bill Introduced.—A. 454 proposes to authorize the state to lease from municipalities one half of the lands, buildings and facilities within the municipality used for medical center purposes and to use such part of the facilities for the maintenance of a medical school, a diagnostic center, a hospital or the like.

Coming Medical Meetings

American Medical Association, San Francisco, June 26-30. Dr. George F. Lull, 535 North Dearborn St., Chicago 10, Secretary.

Aero Medical Association, Chicago, May 29-31. Dr. Thomas H. Sutherland, 214 S. State St., Marion, Ohio, Secretary.

American Association for the Surgery of Trauma, Salt Lake City, June 22-24. Dr. Charles G. Johnston, 1312 St. Antoine St., Detroit 26, Secretary.

American Association of Genito-Urinary Surgeons, Hershey, Penn., Hotel Hershey, May 24-26. Dr. Norris J. Heckel, 122 S. Michigan Ave., Chicago 3, Secretary.

American Association of the History of Medicine, Boston, May 21-23. Dr. Benjamin Spector, 416 Huntington Ave., Boston 15, Secretary.

American Association on Mental Deficiency, Columbus, Ohio, Hotel Deshler-Wallick, May 16-20. Dr. Neil A. Dayton, P. O. Box 98, Willimantic, Conn., Secretary.

American Broncho-Esophagological Association, San Francisco, Mark Hopkins Hotel, May 25-26. Dr. Edwin N. Broyles, 1100 N. Charles St., Baltimore 1, Secretary.

American College of Chest Physicians, San Francisco, June 22-25. Mr. Murray Kornfeld, 500 N. Dearborn St., Chicago 10, Executive Secretary.

American College of Radiology, San Francisco, June 25. Mr. William C. Stronach, 20 N. Wacker Drive, Chicago 6, Executive Secretary.

American Congress on Obstetrics and Gynecology, New York, Hotel Pennsylvania, May 14-19. Dr. F. Bayard Carter, Duke Medical School, Durham, N. C., Secretary.

American Dermatological Association, Jasper National Park, Alberta, Canada, June 18-22. Dr. Louis A. Brunsting, 102 Second Ave. S.W., Rochester, Minn., Secretary.

American Diabetes Association, San Francisco, Hotel Whitcomb, June 24-25. Dr. John A. Reed, 1 Nevins St., Brooklyn 17, Secretary.

American Geriatrics Society, New York, Hotel Commodore, June 1-3. Dr. Malford W. Thewlis, 25 Mechanic St., Wakefield, R. I., Secretary.

American Hearing Society, Chicago, Drake Hotel, June 15-17. Mrs. Frances E. Lee, 817 Fourteenth St., N.W., Washington 5, D. C., Secretary.

American Heart Association, San Francisco, Fairmont Hotel, June 22-25. Dr. John J. Sampson, 1775 Broadway, New York 19, Secretary.

American Laryngological Association, San Francisco, May 23-24. Dr. Louis H. Clerf, 128 S. Tenth St., Philadelphia 7, Secretary.

American Laryngological, Rhinological and Otological Society, San Francisco, May 25-27. Dr. C. Stewart Nash, 277 Alexander St., Rochester 7, N. Y., Secretary.

American Medical Women's Association, Carmel, Calif., June 20-22. Dr. Grace Talbott, 909 Hyde St., San Francisco 9, Secretary.

American Neurological Association, Atlantic City, Claridge Hotel, June 12-14. Dr. H. Houston Merritt, 710 W. 168th St., New York 32, Secretary.

American Ophthalmological Society, Hot Springs, Va., The Homestead, May 31-June 2. Dr. Maynard C. Wheeler, 30 W. 59th St., New York 19, Secretary.

American Orthopedic Association, Virginia Beach, Va., May 23-26. Dr. C. Leslie Mitchell, Henry Ford Hospital, Detroit 2, Secretary.

American Otological Society, San Francisco, May 21-22. Dr. Gordon D. Hoople, 1100 E. Genesee St., Syracuse 10, N. Y., Secretary.

American Radium Society, New York, Roosevelt Hotel, May 25-26. Dr. Hugh F. Hare, 605 Commonwealth Ave., Boston 15, Secretary.

American Society for the Study of Sterility, San Francisco, Sir Francis Drake Hotel, June 24-25. Dr. John O. Haman, 490 Post St., San Francisco 2, Secretary.

American Society of X-Ray Technicians, Columbus, Ohio, Deschler-Wallick Hotel, May 28-June 2. Genevieve J. Eilert, R.T., 16 Fourteenth St., Fond du Lac, Wis., Executive Secretary.

American Urological Association, Washington, D. C., Hotel Statler, May 29-June 1. Dr. Charles H. deT. Shivers, Boardwalk National Arcade Bldg., Atlantic City, N. J., Secretary.

Association for Physical and Mental Rehabilitation, Memphis, Tenn., Hotel Peabody, May 23-27. Mr. Benjamin Forman, 57 Granger St., Canandaigua, N. Y., Secretary.

Association for the Study of Internal Secretions, San Francisco, June 23-24. Dr. Henry H. Turner, 1200 N. Walker St., Oklahoma City 3, Secretary.

Conference of Presidents and Other Officers of State Medical Associations, San Francisco, Palace Hotel, June 25. Mr. John E. Farrell, 104 Francis St., Providence, R. I., Secretary.

Illinois State Medical Society, Springfield, Illinois State Armory, May 23-25. Dr. Harold M. Camp, 224 S. Main St., Monmouth, Secretary.

Kansas Medical Society, Wichita, May 15-18. Dr. D. D. Vermillion, 512 New England Bldg., Topeka, Secretary.

Maine Medical Association, Poland Spring, June 18-20. Dr. Frederick R. Carter, 142 High St., Portland 3, Secretary.

Massachusetts Medical Society, Boston, Hotel Statler, May 16-19. Dr. H. Quimby Gallupe, 8 Fenway, Boston 15, Secretary.

Medical Library Association, Boston, June 19-22. Miss Helen Hlavac, 209 East 23d St., New York 10, Secretary.

Minnesota State Medical Association, Duluth, June 12-14. Dr. B. B. Sweitzer, 496 Lowry Medical Arts Bldg., St. Paul 2, Secretary.

New York, Medical Society of the State of, New York, May 8-12. Dr. Walter P. Anderton, 292 Madison Ave., New York 17, Secretary.

North Dakota State Medical Association, Grand Forks, May 27-30. Dr. O. A. Sedlak, 702 First Ave. S., Fargo, Secretary.

Ohio State Medical Association, Cleveland, May 16-19. Mr. Charles S. Nelson, 79 E. State St., Columbus 15, Executive Secretary.

Oklahoma State Medical Association, Oklahoma City, June 4-7. Dr. Lewis J. Moorman, 210 Plaza Court, Oklahoma City, Secretary.

Society of American Bacteriologists, Baltimore, May 15-19. Dr. John E. Blair, 1919 Madison Ave., New York 35, Secretary.

South Carolina Medical Association, Myrtle Beach, May 16-18. Dr. Julian P. Price, 105 W. Cheves St., Florence, Secretary.

South Dakota State Medical Association, Mitchell, May 20-23. Dr. Roland G. Mayer, 22½ S. Main St., Aberdeen, Secretary.

Western Association of Industrial Physicians and Surgeons, San Francisco, June 25. Dr. Christopher Legge, C. & H. Sugar Refining Corp., Crockett, Calif., Secretary.

Western Branch, American Public Health Association, Portland, Ore., May 31-June 1. Mr. Walter S. Mangold, University of California, Berkeley, Calif., Secretary.

International Meetings

International Anatomical Congress, Oxford, England, July 25-28. Secretariat, Anatomical Society of Great Britain and Ireland, St. Mary's Hospital, Cambridge, England.

International and Fourth American Congress on Obstetrics and Gynecology, New York, Hotel Pennsylvania, May 14-19. Dr. Fred L. Adair, 161 E. Erie St., Chicago 11, Information Headquarters.

International Cancer Research Congress, Paris, France, July 17-22. Secretariat, 6 Ave. Marceau, Paris 8, France.

International Congress of Ophthalmology, London, England, July 17-21. Mr. Keith Lyle, 45 Lincoln's Inn Fields, London W.C.2, England, Secretary.

International Congress on Asthma, Mont Dore, France, June 3-4. Secretariat, 59 rue Bonaparte, Paris, France.

International Pediatric Congress, Zurich, Switzerland, July 24-28. Dr. L. Emmet Holt Jr., 477 First Ave., New York 16, Secretary General.

GOVERNMENT SERVICES

NAVY

OPENINGS AVAILABLE IN INTERN PROGRAM

Applications are still being accepted from qualified candidates interested in intern training in civilian hospitals under the Navy's Intern Program. Appointments to lieutenant (junior grade) in the Medical Corps of the Naval Reserve are provided, and the intern receives his training at the activity of his own selection while receiving the pay of a naval officer of that grade. When ordered to duty at a Naval medical activity on completion of training the doctor also qualifies for an additional compensation of $100 per month over and above his pay and allowances. Other benefits to be obtained are a $250 uniform allowance, reimbursement of transportation costs for dependents and household effects from their home to station of duty, retirement benefits and an opportunity for later advanced professional training.

The prospective candidate must be a graduate of an approved medical school, must have contracted for a rotating internship of 12 months' duration (or be in the second year of a 24 month internship, one year of which must be rotating) at an approved hospital or medical center, must be able to meet the eligibility requirements for initial appointment and must agree to serve on active duty for at least 24 months after completion of the training. Application forms or information may be obtained at the nearest Office of Naval Officer Procurement.

DATA ON ATOMIC RADIATION AVAILABLE

The Navy's research data concerning the effects of atomic radiation on living tissue are being made available to civilian physicians and medical officers of the armed services and federal agencies. To implement the program, pathologic slide study sets and appropriate literature, prepared by the Naval Medical Research Institute, have been provided naval hospitals throughout the country. These study slides concern lesions produced by total body-ionizing radiation. The tissue sections were prepared from swine which had been exposed to one million and two million volt roentgen rays. The response of the tissues of these animals to radiation is comparable to the response of tissues in man in atomic bomb radiation.

Each naval hospital has been instructed to arrange with the local county medical society, commanding officers of armed forces reserve components and federal agencies in their areas for interested physicians to join with Navy doctors in the use of this study material. While this material is considered to be of value to the practicing physician as well as to pathologists, it does not replace or supplement any established course concerning the effects of atomic radiation. Future plans for supplying additional study material will depend on the interest manifested by those in a position to benefit from the offering.

PERSONAL

Capt. David Greene (MC, USN), of Boston, has recently been certified by the American Board of Surgery. Captain Greene is now on duty at the Naval Hospital, Corpus Christi, Texas.

Lieut. William I. Neikirk (MC) has been certified by the American Board of Pediatrics.

Lieut. (jg) Clifford R. Hall (MC, USNR), of Fort Worth, Texas, has been recalled to active duty at his own request. Dr. Hall is being assigned to Naval Hospital, Pensacola, Fla.

Lieut. (jg) John J. Downey, of Belle Terre Park, N. Y., reserve medical officer on active duty at the Amphibious Base, Little Creek, Va., has been appointed to the regular Navy Medical Corps.

Lieut. (jg) James Seward Ketcham (MC, USNR), of Rossville, Ind., has been recalled to active duty at his own request and has been assigned to the Administrative Command, Naval Training Center, San Diego, Calif.

PUBLIC HEALTH SERVICE

HEALTH MISSION TO LIBERIA

Dr. Hildrus A. Poindexter, director of the United States public health mission to Liberia, recently returned to the homeland to consult with Public Health Service officials. In his report he outlined programs for the control of Liberia's major disease problems—malaria, smallpox and intestinal parasites. Malaria has been the subject of a two year testing program with dichlorodiphenyltrichloroethane (DDT) spraying and other antimosquito measures and the antimalarial drug chloroquine. Dr. Poindexter stated that malaria was reduced 90 per cent in some sections of Liberia by use of the drug. Similar results were also obtained by DDT spraying and other antimosquito measures.

A recent smallpox epidemic marked the beginning of a vaccination program which has been so successful that it is now difficult to find a Liberian who has not been vaccinated. Smallpox is no longer a public health problem there. Extensive surveys show that over half the Liberian people are suffering from one to four types of intestinal worms; but, if survey recommendations can be applied on a national scale, progress can be made in the control of this disease also.

The health expenditures of the Liberian government have increased 500 per cent since the mission was established there in 1944. The public health program of the mission is designed so that it can be taken over by the Liberian government as soon as a sufficient number of workers have been trained to carry on the work. The mission has established a training school for nurses and technicians and operates a model clinic in Monrovia.

RESEARCH GRANTS

Grants totaling $863,496 to aid laboratory and clinical center research in forty-eight nonfederal institutions in twenty-one states and the District of Columbia have been announced by the Federal Security Administrator. All the grants are for continuation of previously supported projects. These investigations include clinical treatment of leukemia with anti-folic-acid compounds, studies of the effect of hormone imbalances on the control and causation of tumors, efforts to synthesize and reduce the toxic reaction of colchicine and use of high voltage radiation from the betatron in the treatment of deep-seated cancers.

NEW $10,000,000 CENTER IN ATLANTA

The construction of a new headquarters in Atlanta, Ga., for the Communicable Disease Center of the Public Health Service is now in the planning stage. Dr. R. A. Vonderlehr, who is in charge of the Communicable Disease Center, announced that the cost of the five building center is expected to approximate $10,000,000. In addition to the main building, there will be an infectious disease building, a building to house research animals, a maintenance-storage building and a boiler house. The new headquarters will be adjacent to Emory University on a 15 acre plot donated by the university. A number of members of the staff will teach at the school, and some of the school faculty will serve as consultants to the center.

The Communicable Disease Center, which grew out of a wartime project for the control of malaria in war areas, assists the

states, on request, in the prevention and control of malaria, poliomyelitis, rabies, typhus and other communicable diseases. Among its services are epidemiologic studies, the evaluation of laboratory tests and the testing of insecticides and other chemicals used as public health tools. The center conducts training programs in many phases of laboratory work and disease control and gives assistance to state and local health agencies in times of emergency. The Communicable Disease Center has about 500 employees at present. When the new headquarters is completed, the staff will number about 700.

PERSONAL

Dr. William Y. Hollingsworth recently retired from the Public Health Service, after 30 years' service. He had been medical officer in charge, San Francisco Marine Hospital, since 1944 and has been succeeded by Dr. C. R. Mallary.

Miss Marion D. Floyd of Boston, former president of the Massachusetts Dietetics Association, has been appointed chief of the Dietetic Branch of the Division of Hospitals of the Public Health Service.

VETERANS ADMINISTRATION

APPOINT MEDICAL DIRECTOR

Dr. T. M. Arnett has been assigned as medical director of the Washington Area Field Supervising Service, comprising nine states, the District of Columbia and Puerto Rico, succeeding Dr. Delmar Goode, who has been appointed manager of the Veterans Administration hospital at Little Rock, Ark., now nearing completion. Dr. Arnett served in the Army Medical Corps from 1931, when he was graduated from the University of Maryland Medical School, until 1947, when he joined the VA. During World War II he commanded a general hospital overseas and concluded his army career as port surgeon at LeHavre, France.

NEW YORK LOANS 740 BEDS IN HOSPITAL

The Veterans Administration has completed an arrangement with the New York State Department of Mental Hygiene for the use of 740 beds in the state-owned Halloran Hospital on Staten Island, New York, until Dec. 31, 1952. This will provide for the care of all paraplegic and general medical patients now under VA care in Halloran. The agreement also enables VA to use one pavilion for tuberculous patients. Tuberculous patients who cannot be cared for in the pavilion will be transferred to other VA hospitals in the New York area. All neuropsychiatric patients in Halloran will be transferred to the new VA hospital at Peekskill, N. Y. VA is constructing a 1,250 bed hospital in Manhattan and will have it completed prior to Dec. 31, 1952.

PERSONAL

Dr. George O. Pratt has been named manager of the Manchester Veterans Administration Hospital, New Hampshire. He was formerly chief of professional service at the medical office in Boston.

Dr. Franklin G. Ebaugh, professor of psychiatry, University of Colorado School of Medicine, Denver, conducted a two day neuropsychiatric seminar at the Veterans Administration Hospital, Gulfport, Miss., March 23-24.

Dr. James A. Halsted, Boston, has resigned as chief of the medical service of the Faulkner Hospital in order to accept a full time position as section chief in the Wadsworth Veterans Administration Hospital, Los Angeles.

MISCELLANEOUS

NEW CHAIRMAN OF RESEARCH AND DEVELOPMENT BOARD

William Webster, Executive Vice President of the New England Electric System, Boston was sworn in as Chairman of the Research and Development Board by Secretary of Defense Louis Johnson, March 15. Mr. Webster's first association with the Board was on its inception in 1946 as the Joint Research and Development Board, when he served as a consultant. From September 1948 to September 1949 he was chairman of the Board's Committee on Atomic Energy, deputy to the Secretary of Defense on Atomic Energy Matters, and Chairman of the Military Liaison Committee to the Atomic Energy Commission. Prior to that time he was consultant to the Atomic Energy Commission from 1947 to 1948. Since October 1949, Mr. Webster has been a consultant to the Office of the Secretary of Defense and the Atomic Energy Commission. The Research and Development Board is composed of a civilian chairman and two representatives from each of the three military departments.

RESEARCH PROPOSALS IN BIOLOGY AND MEDICINE

The U. S. Atomic Energy Commission approved 41 research proposals in the field of biology and medicine from Nov. 1, 1949, through March 9, 1950, it was announced by Dr. Shields Warren, director of the Atomic Energy Commission Division of Biology and Medicine. Thirty-four of the proposals are for new research projects at universities, hospitals and private research laboratories; six are for renewals of existing projects, and one covers a working agreement with the Fish and Wildlife Service of the Department of the Interior. The proposals were submitted by investigators at 35 different institutions located in 20 states and the District of Columbia. Contracts covering the 34 new projects and six renewals of existing projects are being negotiated by AEC Operations Offices. Award of the 34 new contracts will bring to 194 the number of AEC-supported research projects now being carried on in biology and medicine at 87 universities, hospitals and private research centers. About $5,000,000 has been set aside for support of such research in non-AEC agencies during the current fiscal year. The scope of the program under which AEC research support is extended in biology and medicine comprises the biologic effects of radiations, including medical and cancer research and, to a limited extent, the use of radioisotopes as tracers.

PREVENTION OF AIR POLLUTION COSTS MILLIONS

With industry and government spending about $100,000,000 a year to prevent the spread of air contaminants, the discussion of the latest control equipment at the government-sponsored conference on air pollution in Washington, D. C., May 3-5 aroused interest, Secretary of the Interior Chapman announced. Installation of new control equipment, analysis of various industrial processes, and stack sampling for contaminants cost about $10,000,000 in Los Angeles County, Calif., alone during the past two and one-half years, Secretary Chapman said. As a result of air pollution regulations, various cities in New York spent more than $2,000,000 modernizing plants during 1948 and at least $3,500,000 during 1949, according to estimates of the state health department.

All types of modern equipment used to control air pollution, including bag filters, scrubbers and sonic collectors, were discussed at the panel on equipment at the first United States Technical Conference on Air Pollution. This conference was proposed several months ago by the President, who requested Secretary Chapman to organize an interdepartmental government committee to sponsor it. Leading authorities on air pollution from government, industry and educational and research institutions participated.

Medical News

(Physicians will confer a favor by sending for this department items of news of general interest: such as relate to society activities, new hospitals, education and public health. Programs should be received at least two weeks before the date of meeting.)

ARIZONA

Public Health Association.—The annual meeting of the Arizona Public Health Association was held April 20-21 at Safford. The sessions were conducted on a workshop plan, and the theme of the meeting was "Public Health and Arizona's Economy." Dr. Harald M. Graning, U. S. Public Health Service, Washington, D. C., spoke on "Public Health—1950." Dr. Charles E. Reddick, Phoenix, succeeded Mrs. Marion Sprague as president of the association. Mr. Roy N. Jones, supervisor, Phoenix Health Department, was chosen president-elect and Mrs. Helene T. Bennett of Yuma, vice president.

ARKANSAS

Dr. Poe Heads Neuropsychiatry Department.—Dr. John S. Poe, Columbia University College of Physicians and Surgeons, has been appointed professor of neuropsychiatry and head of the department at the University of Arkansas School of Medicine, effective May 1. Dr. H. Lee Hall has been appointed associate professor of neuropsychiatry, effective July 1. Dr. Hall was formerly associated with the Long Island College of Medicine.

Narcotic Violations.—Dr. Frank A. Norwood of Mena pleaded guilty to violation of the federal narcotic laws in the U. S. District Court in the Western District of Arkansas on January 23. Sentence was suspended and he was placed on probation for a period of two years.

Dr. Luther M. Lile of Hope pleaded guilty in the U. S. District Court at Fort Smith to an information charging violation of the federal narcotic laws. On March 3 sentence was suspended and he was placed on probation for a period of two years.

GEORGIA

Offer Health Tests to Public.—The 300,000 residents of Atlanta are being offered health tests for six major conditions during April, May and June: tuberculosis, syphilis, diabetes, anemia, dental and oral defects and correct weight. The testing program is a combined effort of the Atlanta, Fulton and DeKalb County and the state and federal health departments. Twelve testing stations have been established in locations designed to make it easy for the public to participate. Persons examined who are suspected of having disease will be referred to their physicians or dentists for complete diagnosis and treatment. Facilities are available for all persons over 12 years of age. A citizens' committee for the Greater Atlanta health program was formed at a meeting of the fifty representatives from organizations in the metropolitan area. Volunteer workers from these organizations assist in the mass health improvement project. Mass health screening has the support of the Fulton County Medical Society.

ILLINOIS

College Health Association.—The spring meeting of the Illinois Section of the American College Health Association was held at the Northern Illinois State Teachers College May 6. Dr. C. Howard Hatcher, professor of orthopedic surgery at the University of Chicago, spoke on "Athletic and Other Common Injuries on the Campus" and Dr. William G. Beadenkopf, assistant professor of medicine, University of Chicago, discussed "Histoplasmosis in Illinois."

Civil Service Positions for Physicians.—The Illinois Civil Service Commission announces examinations for physician I, psychiatrist I and tuberculosis control physician I, principally for employment in state institutions. It is anticipated that the Illinois residence requirement will be waived for all these examinations, which offer opportunities for immediate employment and career service. Salary ranges are: physician I, $4,080 to $5,280; psychiatrist I and tuberculosis control physician I, $4,740 to $6,408. Final date to apply is June 16. Information may be obtained from the Civil Service Commission, 501 Armory Building, Springfield.

Newspaper Edition to Be Dedicated to County Doctors.—The *Illinois State Journal and Register* of Springfield in cooperation with the Sangamon County Medical Society will publish a special edition dedicated to the medical profession in general and Sangamon County physicians in particular on May 21. The occasion will be in honor of the 110th annual session of the Illinois State Medical Society and the 50th anniversary of the Sangamon County Medical Society. The convention will be held May 23-25 in the State Armory in Springfield and will be known as "The Andy Hall Annual Meeting." The story of medical progress, building of hospitals, clinics and public health service facilities will be included in the edition.

Chicago

Hektoen Lecture.—Dr. Jesse E. Edwards, assistant professor of pathologic anatomy, Mayo Foundation, University of Minnesota, Minneapolis, will deliver the twenty-sixth Ludvig Hektoen Lecture of the Frank Billings Foundation of the Institute of Medicine of Chicago May 26 at the Palmer House. His subject will be "Structural Changes of the Pulmonary Vascular Bed and Their Functional Significance in Congenital Cardiac Diseases."

Summer Camp for Diabetic Children.—This camp will be conducted for the second season under the auspices of the Chicago Diabetes Association, at Holiday Home, Lake Geneva, Wis., August 8-29. In addition to the regular personnel of the camp, there will be a staff of dietitians and resident physicians, trained in the care of diabetic children, furnished by the association. Boys and girls aged 8-14 will be accepted at a fee of $120, which covers three weeks' camping and transportation from Chicago. Fee reductions may be arranged according to circumstances. Correspondence should be addressed to the Chicago Diabetes Association, 950 East 59th Street, Chicago 37.

Personals.—Dr. Paul A. Campbell, instructor, department of otology, Northwestern University Medical School, reported in April to the Air Force School of Aviation Medicine at Randolph base, for two weeks' active duty as a colonel. Dr. Campbell was with the School of Aviation Medicine's department of otolaryngology from 1941 until 1942 and director of research at the aviation medical school from 1942 until 1945. He was then assigned to the air staff intelligence team to study German Air Force development until relieved from active duty in 1946.——Dr. Meyer Perlstein will address the annual meeting of the Argentina Pediatric Society in Cordoba, Argentina, May 22-23 on "Newer Drugs in the Therapy of Epilepsy." In addition he will lecture, and have an exhibit in clinicopathologic correlation, on the brain in cerebral palsy.

Society of Physical Medicine and Rehabilitation.—A group of persons interested in physical medicine and rehabilitation met April 19 to organize the Chicago Society of Physical Medicine and Rehabilitation. Dr. Louis B. Newman, chief, physical medicine rehabilitation, Veterans Administration Hospital, Hines, was elected president; Dr. Charles O. Molander, director, department of physical medicine, Michael Reese Hospital, vice president, and Dr. Arthur A. Rodriquez, assistant head of the department of physical medicine and rehabilitation at Research and Educational Hospitals, secretary treasurer. Drs. H. Worley Kendall, Disraeli W. Kobak and James T. Case were elected to the Board of Trustees to serve for a period of three, two and one years, respectively. The next meeting will be held May 19, dinner at 6:30 p. m., at the medical center Y. M. C. A., 1804 West Congress Street. The guest speaker will be Dr. Richard Kovacs of New York, secretary of the American Congress of Physical Medicine. His subject will be "The Evolution of Physical Medicine Rehabilitation in Organization Work."

INDIANA

District Medical Association.—The Eleventh District Medical Association will meet at Marion May 17. Forenoon clinics will be held at the Marion General Hospital and at the Veterans Administration Hospital, where the afternoon scientific program will be held. Guest lecturers will be Dr. John Frost, of the Eli Lilly & Company, who will speak on "Arthritis"; Dr. Philip Thorek, Chicago, "Jaundice," and Dr. Donald E. Hale, Cleveland, "Nerve Block for Anesthesia, Diagnosis and Therapy." There will also be a speaker in the evening.

KENTUCKY

Postgraduate Courses.—The University of Tennessee College of Medicine, Memphis, is presenting a postgraduate course in six fields of medicine for general practitioners of West Kentucky at the request of the Kentucky branch of the American Academy of General Practice. Lectures are being given each Wednesday night for six weeks at the Jennie Stuart Memorial Hospital in Hopkinsville. After the addresses a panel discussion is held. Drs. F. Theodore Mitchell, James G. Hughes and James N. Etteldorf of the pediatrics department presented the first lectures April 19. The department of surgery presented a symposium on vascular surgery April 26. Dr. Harwell Wilson discussed newer concepts of peripheral vascular surgery, Dr. Charles B. Olim cardiovascular surgery and Dr. Francis Murphey intracranial vascular problems. Lectures in the field

of obstetrics and gynecology were presented May 3. Drs. Conley H. Sanford, Lemuel W. Diggs, Philip Bleecker and Samuel F. Strain conducted the symposium on medicine May 10. On May 17 Dr. Cyril J. Ruilmann, Dr. Joseph B. Parker Jr. and Dr. Bruce E. Walls will speak on problems of neuropsychiatry. The final conference will be held May 24, with lectures in the field of urology.

MASSACHUSETTS

Dr. Winslow Wins Shattuck Award.—Dr. Charles-Edward A. Winslow, professor emeritus of public health, Yale University School of Medicine, New Haven, Conn., and editor of the *American Journal of Public Health*, recently was awarded the first Lemuel Shattuck Award at the sixtieth anniversary meeting of the Massachusetts Public Health Association in Boston. The award is for distinguished service by a New Englander in the field of public health. The Shattuck award was made on the hundredth anniversary of the filing of the pioneer Shattuck's "Report of the Sanitary Commission of Massachusetts," which eventually became the national blueprint for public health programs.

Appoint Professor of Business Administration.—Dr. Neil L. Crone, Boston, has been appointed professor of business administration at the Harvard Graduate School of Business Administration, George F. Baker Foundation. Dr. Crone graduated from Grinnell College, Iowa, in 1925. He was awarded a Rhodes Scholarship at Oxford University, England, where he received his B.A. (1927), M.A. (1927) and Ph.D. (1929) degrees. In 1931 he was awarded an M.D. degree by Harvard Medical School. In World War II he served as medical consultant to the U. S. First Army in the United States, England, France, Belgium, Germany and the Philippines, and was chief of medicine at Walter Reed General Hospital, Washington, D. C.

NEW YORK

Dr. Morgan Heads Bacteriology Department.—Dr. Herbert R. Morgan, professor of medicine at the University of Michigan Medical School, Ann Arbor, has been appointed professor of bacteriology and chairman of the department of bacteriology and preventive medicine at the University of Rochester School of Medicine and Dentistry. Since 1938 Dr. Morgan has also been associate professor of epidemiology in the university's School of Public Health. His appointment at the University of Rochester Medical School, where he also will be associate professor of medicine, is effective July 1. He will replace Dr. George P. Berry, formerly associate dean and chairman of the bacteriology department, who left to become dean of Harvard Medical School, Boston, July 1, 1949. Dr. Morgan is a graduate of Harvard Medical School. While studying there he held the Taussig traveling fellowship, the De Lamar student research fellowship and the Charles Eliot Ware and John Ware memorial fellowships. He served in the U. S. Army Medical Corps from 1943-1946, assigned to the U. S. Typhus Commission, and also was visiting investigator in the International Health Division Laboratories of the Rockefeller Institute for Medical Research. From 1946-1948 he was a senior fellow in medical sciences of the National Research Council at Thorndike Memorial Laboratory, Boston City Hospital, and a research fellow in medicine at Harvard.

New York City

Alumni Award to Dr. Barr.—At the annual Alumni Day exercises of Cornell University Medical College March 23 the second annual award for distinguished service to medicine was presented to Dr. David P. Barr, professor of medicine at Cornell and past president of the American College of Physicians. Dr. Barr addressed the alumni on "The Significance of Cryoglobulinemia."

Jones Orthopedic Lecture.—Dr. Philip Wiles of London will deliver the annual Sir Robert Jones Lecture on "Posture and Defects of Posture" May 31 at 8:30 p. m. at the Hospital for Joint Diseases. Dr. Wiles is treasurer of the British issue of the *Journal of Bone and Joint Surgery* and consultant orthopedic surgeon, Middlesex Hospital, London. The Sir Robert Jones lectureship was established by the hospital in 1930 in honor of the man who is considered by many to be the father of modern orthopedic surgery. Sir Robert died in 1933.

New Maimonides Hospital Unit.—The new eight story, $1,750,000 Maimonides Hospital Surgical and Medical Building in Brooklyn was opened April 16. It adds 186 beds to the hospital's present capacity of 550 and houses seven operating suites. The new structure will enable the transfer of 100 beds in its present main building to ward care, increasing that service to 225 beds. The building will accommodate both private and semiprivate patients. It was built by the Federation of Jewish Philanthropies.

NORTH DAKOTA

Annual State Medical Meeting.—The North Dakota State Medical Association will hold its annual meeting in the Dacotah Hotel, Grand Forks, May 27-30, under the presidency of Dr. Willard A. Wright, Williston. Out of state speakers include:

John S. Lundy, Rochester, Minn., Use of Anesthesia in General Practice.
John T. Reynolds, Chicago, Cancer of the Large Bowel.
Nelson W. Barker, Rochester, Minn., Diagnosis and Treatment of Chronic Occlusive Arterial Disease of the Extremities.
Robert B. Radl, Bismarck, N. D., Treatment of Medical Emergencies.
Lester D. Dragstedt, Chicago, Surgical Treatment of Peptic Ulcer.
Charls W. Mayo, Rochester, Minn., Significance of Tumors of the Neck.
Albert V. Stoesser, Minneapolis, Respiratory Allergy in Children.
Leo G. Rigler, Minneapolis, Cancer of the Lung.
Owen H. Wangensteen, Minneapolis, Surgeon's Role in Management of Cancer of the Alimentary Tract.
Lester J. Palmer, Seattle, Application of the Insulins in the Treatment of Diabetes Mellitus with Comments on Diabetes Detection.
Donald R. Nichols, Rochester, Minn., Use of Antibiotics in General Practice.
Leonard A. Lang, Minneapolis, The Hysterectomy Problem.

The annual banquet will be at the Grand Forks Country Club Monday evening. Special societies will hold luncheon meetings. An organizational meeting will be held Tuesday for the formation of a North Dakota Diabetic Association, at which time Dr. Palmer, president elect of the American Diabetes Association, will be the guest speaker.

RHODE ISLAND

State Medical Meeting.—The Rhode Island Medical Society's annual meeting was held in Providence May 10-11, under the presidency of Dr. Peter P. Chase, Providence. Out of state speakers included:

Francis D. Moore, Boston, Surgical Operation as an Event in the Natural History of Ulcer Disease.
John T. Farrell, Philadelphia, Role of Roentgenology in Management of Duodenal Ulcer.
James H. Means, Boston, Indications for Treatment of Graves' Disease.
James L. Gamble, Boston, The Charles V. Chapin Oration, Body Fluids and the Rationale of Fluid Therapy.
R. B. Robins, Camden, Ark., The Months Ahead.
John J. Poutas, New York, Industrial Medicine and the Private Practitioner.
Mr. Thomas A. Hendricks, American Medical Association, Chicago, What's New at the A.M.A.

The Woman's Auxiliary met in Rumford May 10, and the state Association of Medical Record Librarians met on Wednesday. Technical exhibits were shown.

SOUTH DAKOTA

State Medical Meeting at Huron.—The South Dakota State Medical Association will hold its annual meeting May 21-23 in Huron under the presidency of Dr. William H. Saxton, Huron. Out of state speakers include:

James C. Sargent, Milwaukee, Bladder Tumors.
Mrs. Paul Craig, Reading, Pa., The Auxiliary in Public Relations.
Placidus J. Leinfelder, Iowa City, Diagnostic Significance of Ocular Complaints.
F. Stewart Taylor, Denver, Female Pelvis Surgery—When Is It Necessary?
Louis J. Karnosh, Cleveland, Common Forms of Neuritis and Therapy.
Edwin J. Pulaski, Fort Sam Houston, Texas, Antibiotic Therapy.
Fred W. Wittich, Minneapolis, Treatment of Acute Allergy in General Practice.
Vernon L. Hart, Minneapolis, Congenital Disease of Hip.
Earl C. Elkins, Rochester, Minn., Treatment of Convalescent Poliomyelitis.
Raymond Hoseheldler, Chicago, Severe Injuries About the Ankle Joint.
Galen M. Tice, Kansas City, Kan., Differential Diagnosis of Malignancy in the Gastrointestinal Tract.
Mr. Ed. O'Connor, Chicago, The Farewell State.

WASHINGTON

Statue of Dr. Whitman in Capitol.—In 1949 the state legislature by an almost unanimous vote approved a bill which would place a statue of Dr. Marcus Whitman, the first American physician in the Pacific Northwest, in the Capitol Building in Washington, D. C. Last September the Washington State Medical Association endorsed the action of the legislature and commended the state in its choice of honoring a physician as a great pioneer. Up to the present, three states have thus honored physicians in our national capitol. Kentucky has recognized Dr. Ephraim McDowell (1771-1830), who performed the first ovariotomy in 1809; Florida presented a statue of Dr. John Gorrie (1803-1855), inventor of the ice machine and mechanical refrigerator; Georgia erected a statue of Dr. Crawford W. Long (1815-1878), discoverer of ether anesthesia (1842). It is hoped that individual physicians will share modestly in the costs of erection of the statue. Contributions may be in pennies or dollars, but it is specifically requested that no contribution exceed $5. Checks should be made out to the Marcus Whitman Foundation, Inc., and should be mailed to that organization in care of Dr. Willard Goff, 432 Stimson Building, Seattle 1.

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WEST VIRGINIA

Rabies in Kanawha County.—Kanawha County closed its extensive program against rabies April 21. Of the 24,000 dogs in Kanawha County about 18,000 were vaccinated. During the first 10 weeks of this year 41 out of 60 dogs' heads examined were found infected with rabies. More than 25 persons bitten by dogs have undergone the Pasteur treatment as a precautionary measure. Last fall a young boy died from rabies after being bitten. The county was quarantined last fall by the State Department of Agriculture. Officials of Charleston, Dunbar, Nitro and St. Albans appointed special agents, equipped with trucks, to effect stray control. The Kanawha-Charleston Health Department established a schedule of free antirabies vaccination clinics throughout the county. Aided by a sound truck loaned by the U. S. Army recruiting station, the promotion of vaccination was carried on by newspaper stories and radio announcements. The clinics were manned by local veterinarians, and the vaccine was supplied by the state Hygienic Laboratory.

WISCONSIN

Surgeons Meet.—A meeting of the Wisconsin Section of the International College of Surgeons will be held at the Jackson Clinic in Madison May 20 from 9 to 12 noon. A luncheon at the Hotel Loraine will close the meeting.

Dr. Baldwin to Edit State Journal.—Effective with the March issue, Dr. Robert S. Baldwin of Marshfield took over on a two year term as editor of the *Wisconsin Medical Journal*, succeeding Dr. Karl H. Doege of Marshfield, who has served more than 10 years in that capacity. Both physicians are on the staff of the Marshfield Clinic. Dr. Baldwin graduated from Rush Medical College in 1932.

GENERAL

Western Public Health Association.—The seventeenth annual meeting of the Western Section of the American Public Health Association will be held at the Masonic Auditorium Building in Portland, Ore., May 30 to June 1. The program includes panel discussions on Supplying Future Health Personnel, Planning Effective Nursing Services for the Community and Steps in Developing a Mental Health Program. The first John J. Sippy Memorial Lecture will be delivered by Dr. William P. Shepard, San Francisco, at the Wednesday afternoon session on "The Life and Work of John J. Sippy."

Employment of Hard of Hearing.—More than 5,000 jobless or unsuitably employed deaf persons were prepared for and placed in self-sustaining employment during 1949 through state-federal vocational rehabilitation services for civilians, according to the Federal Security Agency's announcement in connection with observance of National Hearing Week, May 7-13. This brings to a total of 22,668 the number of persons of working age with impaired hearing who have been rehabilitated in the six years of state-federal operations under strengthened legislation.

American Otological Society.—This society will hold its annual meeting May 21-22 at the Hotel Mark Hopkins, San Francisco, under the presidency of Dr. Philip E. Meltzer, Boston. Speakers invited to present papers include:

Merle Lawrence, Ph.D., and Ernest G. Wever, Ph.D., Princeton, N. J., Recent Investigation of Sound Conduction.
Walter P. Work, San Francisco, Lesions of the External Auditory Canal.
Jerome A. Hilger, St. Paul, Vasomotor Labyrinthine Ischemia.
Victor Goodhill, Los Angeles, The Nerve Deaf Child; Significance of Rh Maternal Rubella and Other Etiologic Factors.

The President's Reception will be Sunday at 6:30 p. m.

Society Elections.—At the meeting of the American Society for Experimental Pathology on April 21 in Atlantic City, N. J., the following officers were elected: Dr. James F. Rinehart, San Francisco, president; F. S. Robscheit-Robbins, Ph.D., Rochester, N. Y., vice president; Dr. Sidney C. Madden, Upton, N. Y., secretary-treasurer, and Drs. D. Murray Angevine, Madison, Wis., and Russell L. Holman, New Orleans, councilors. ——Dr. Roland E. McSweeney, Brattleboro, Vt., was elected president of the Council of New England State Medical Societies at the organizations' annual meeting April 19 in Boston. Dr. Joseph H. Howard, Bridgeport, Conn., was elected vice president of the council and Dr. Creighton Barker, New Haven, Conn., secretary. Dr. Barker is executive secretary of the Connecticut State Medical Society and Dr. Howard is a delegate to the American Medical Association and past president of the state medical society.

International Conference on Gerontology.—The first International Conference of Gerontological Societies will be held in Liége, Belgium, July 9-12. It is sponsored by the Belgian Gerontological Group, of which Dr. L. Brull, Hospital Baviere, Liége, Belgium, is president. The committee representing the American Gerontological Society consists of Dr. Anton J. Carlson, Chicago; Edward V. Cowdry, Ph.D. (chairman), Dr. Robert A. Moore and Albert I. Lansing, Ph.D., of St. Louis, and Nathan W. Shock, Ph.D., Bethesda, Md. All gerontologic and geriatric societies throughout the world and representatives of other organizations engaged in gerontological research are invited to send official representatives and to present papers. In addition to the presentation and discussion of the results of gerontologic research, it is the purpose of this international conference to establish an International Union of Gerontologic Societies and to promote the financing of research in this subject throughout the world. For information write to Dr. Brull or to Dr. Edward V. Cowdry, Washington University School of Medicine, St. Louis 10, Mo.

American Urological Association.—The annual meeting of this association will be held at the Hotel Statler, Washington, D. C., May 29 to June 1, under the presidency of Dr. Carl Rusche, Hollywood, Calif. Those presenting papers by invitation include:

Henry Mortensen, Melbourne, Australia, Osteitis Pubis.
William H. Boyce, Charlottesville, Va., First Prize Essay Winner, Absorption of Certain Constituents of Urine from the Large Bowel of the Experimental Animal (Dog).
Roger C. Baker Jr., Chicago, Third Prize Essay Winner, A Clinical and Experimental Investigation of Serum Albumin in Uremia.
Don C. Van Cappellan, Amsterdam, Netherlands, Modern Treatment of Tuberculosis of Urinary Tract.
Robert F. Gehres, Sacramento, Calif., Second Prize Essay, New Chemical Approach to the Dissolution of Urinary Calculi.
Lieut. William W. Miller Jr., Pensacola, Fla., The End to Side Elliptic Constriction Technic in Pyeloplasties.
Emile S. Sayegh, Tanta, Egypt, Plastic Operations on the Ureter.

Carl R. Moore, Ph.D., Chicago, as recipient of the 1950 Award for Research on the Male Reproductive Tract, will address the association Monday on "Experimental Studies on the Male Reproductive System." The Ramon Guiteras Lecture will be presented Wednesday afternoon by Dr. Robert A. Moore, dean and Edward Mallinckrodt professor of pathology, Washington University School of Medicine, St. Louis, on "Tumors of the Testis." Motion picture programs will be presented, and scientific and technical exhibits will be shown.

Aero Medical Association.—This association will hold its annual meeting at the Palmer House, Chicago, May 28-31, under the presidency of Capt. Wilbur E. Kellum, (MC, USN), Pensacola, Fla. In addition to military personnel, the program lists the following speakers:

Herman A. Heise, Milwaukee, Airplane Study Concerning the Distribution of Pollens and Molds in the Upper Atmosphere.
F. Dixson, M.S., and James L. Patterson Jr., Atlanta, Ga., Concept of Apparent Physiologic Force.
Maurice N. Walsh, Rochester, Minn., Flying Safety from the Standpoint of a Flying Doctor.
Mr. George E. Hobbs, Mr. D. A. J. Morey, Mr. E. R. Schneck and Mr. W. H. Beattie, London, Canada, Evidence of Accident Proneness in Pilots with Noncombat Fatal Accidents.
Seymour S. Stein, Ralph R. Sonnenschein and Mr. P. Dell, Chicago, Artificial Respiration at High Pressures.
Murry L. Barr and Mr. James Murray, London, Canada, Effect of Altitude Anoxia on the Central Nervous System.
Messrs. M. S. Comess and R. E. Wilhelm and John P. Marbarger, Ph.D., Chicago, Performance Under Acute Anoxic Stress in Acclimatized Mice.
Mr. J. L. Lippin and Dr. William V. Whitehorn, Chicago, Role of Metabolism in the Acclimatization of Albino Rats to Reduced Barometric Pressure.
Heinz Haber, Ph.D., Randolph Field, Texas, Possible Methods of Producing the Gravity-Free State for Medical Research.
Andrew C. Ivy and Jerry W. Wedral, Chicago, A Roentgen Study of Bubble Formation in Dogs.
Howard B. Burchell, Erich A. Quer and Jan H. Tillisch, Rochester, Minn., Possible Relation of Syncope to Valvular Heart Disease.
Hedwig S. Kuhn, Hammond, Ind., Industrial Eye Problems.

A symposium on Cardiology as It Relates to Air Travel will take place Wednesday morning with Drs. Gilbert H. Marquardt, Chicago; Hiram E. Essex, Ph.D., Rochester, Minn.; Simon Rodhard, Ph.D., Chicago, and John E. Smith, Washington, D. C., participating.

Marriages

BEULA MAE MUSGROVE, Charlottesville, Va., to Mr. Charles Hathaway of Birmingham, Ala., March 16.

ARTHUR B. PETERSEN to Miss Betty Mina Dahlberg, both of Portland, Ore., March 25.

FREDRICK FISCHER, Brooklyn, to Mrs. Beverly Becker of Miami, Fla., March 31.

ROBERT ALAN LEDNER to Miss Lucille Ellen Phillips, both of Brooklyn, March 10.

MAURICE M. STEINBERG to DR. MURIEL FRANK, both of Omaha, in March.

WILLIAM CALDWELL to Miss Joan Leslie, both of Los Angeles, March 17.

Deaths

Adolf Meyer ● professor emeritus of psychiatry at Johns Hopkins University School of Medicine in Baltimore, died at his home in Baltimore March 17, aged 83, of heart disease. Dr. Meyer was born in Zurich, Switzerland, in 1866, and received his degree in medicine at the Universität Zurich Medizinische Fakultät, Switzerland, in 1892, in which year he came to the United States. He was an honorary fellow and then docent in neurology at the University of Chicago, 1892-1895; pathologist to the Illinois Eastern Hospital for the Insane, Kankakee, 1893-1895; pathologist and later director of clinical and laboratory work, Worcester (Mass.) Insane Hospital and docent in psychitary, Clark University, Worcester, Mass., 1895-1902; director of the Pathological (Psychiatric) Institute, New York State Hospitals, 1902-1910, and professor of psychiatry, Cornell University Medical College, New York, 1904-1909. He went to Johns Hopkins in 1910 as professor of psychiatry and served as director of the Henry Phipps Psychiatric Clinic, which was built under his supervision, 1911-1913, at Johns Hopkins Hospital. He retired at his own request in 1941. He had been honorary president of the National Committee for Mental Hygiene, president of the International Committee for Mental Hygiene and honorary vice president of the Conference on Method of Philosophy and the Sciences. Dr. Meyer was an honorary member of many psychiatric societies and was president of the New York Psychiatric Society 1905-1907, American Neurological Association 1922, American Psychiatric Association 1927 and the American Psychopathological Association 1912 and 1916. In 1941 Dr. Meyer was vice president for America of the International League Against Epilepsy, and in 1943 he was chosen honorary president of the American Society for Research in Psychosomatic Problems. He was a member of the Association of American Physicians, Academie de Naturforscher zu Halle, American Association of Neuropathologists, American Institute of Criminal Law and Criminology, American Association for the Advancement of Science, New York Academy of Sciences, Association for Research in Nervous and Mental Diseases, American Orthopsychiatric Association, American Psychological Association, American Association of Anatomists, Harvey Society, New England Society of Psychiatry, American Psychosomatic Society, and corresponding member of the Societe de Neurologie, Societe de Psychologie and Societe Medico-psychologique (Paris) and Sociedad Neurologia y Psiquiatria (Buenos Aires). He was a specialist certified by the American Board of Psychiatry and Neurology. Dr. Meyer received the first annual award under the memorial fund established in honor of the late Dr. Thomas W. Salmon and delivered the Thomas W. Salmon Memorial Lectures for 1931. In May 1933 he delivered the fourteenth Maudsley Lecture of the Royal Medico-Psychological Association in London, England, and in the same year was guest lecturer at the Academy of Neurology and Psychiatry, Kharkow, U.S.S.R. He held honorary degrees from Glasgow, Clark, Yale and Harvard universities. The April 1937 issue of the *Archives of Neurology and Psychiatry* was dedicated to Dr. Meyer to mark his seventieth birthday and the twenty-fifth anniversary of the founding of the Henry Phipps Psychiatric Clinic. He was a member of the editorial board of the *Archives of Neurology and Psychiatry* for many years and in 1941 joined the editorial board of *Sociometry*, a journal of interpersonal relations. In October 1938 the new psychiatric clinic building at the State Hospital for Mental Diseases, Howard, R. I., was dedicated and named in his honor. Dr. Meyer contributed extensively to the literature on neurology, pathology and psychiatry.

Augustus Grote Pohlman, Seal Beach, Calif.; born in Buffalo, Feb. 21, 1879; University of Buffalo School of Medicine, 1900; at various times on the faculty of Cornell University Medical College in New York, Johns Hopkins University School of Medicine in Baltimore, Indiana University School of Medicine in Indianapolis and St. Louis University School of Medicine; dean and professor of anatomy at the South Dakota University School of Medicine, Vermillion, 1932-1933; professor of anatomy at Creighton University School of Medicine in Omaha from 1933 to 1938; formerly associate clinical professor of surgery (otology, rhinology and laryngology) at the University of Southern California School of Medicine in Los Angeles; member of the American Association of Anatomists; died in Hermosa Beach March 31, aged 71, of cardiac failure.

● Indicates Fellow of the American Medical Association.

William Dean Collier ● Youngstown, Ohio; born in Trenton, Mo., Jan. 15, 1897; Johns Hopkins University School of Medicine, Baltimore, 1924; formerly professor and director of the department of pathology at St. Louis University School of Medicine; specialist certified by the American Board of Pathology; member of the American Association of Pathologists and Bacteriologists and the American Society of Clinical Pathologists; fellow of the American Association for the Advancement of Science; at one time affiliated with St. Mary's Group of Hospitals, St. John's, Alexian Brothers and St. Anthony's hospitals, all in St. Louis; since 1936 affiliated with St. Elizabeth's Hospital, where he died March 15, aged 53, of cerebral thrombosis, arteriosclerosis and hypertension.

James Robert Bost ● Houston, Texas; born in Newton, N. C., Aug. 18, 1882; University of Louisville (Ky.) Medical Department, 1911; clinical professor of orthopedic surgery at the Baylor University College of Medicine; member of the Clinical Orthopaedic Society and the American Academy of Orthopaedic Surgeons; fellow of the American College of Surgeons; served during World War I; chief, orthopedic service, Jefferson Davis Hospital; attending orthopedic surgeon, Memorial Hospital; visiting orthopedic surgeon, St. Joseph's Infirmary and Hermann Hospital; consulting orthopedic surgeon, Methodist Hospital; died in Worrall Hospital, Rochester, Minn., March 16, aged 67, of coronary sclerosis.

Dallas Hilliard Adams, Milton, Fla.; Atlanta School of Medicine, 1908; died March 15, aged 67, of injuries received when struck by an automobile.

William Allen Ashbrook, Gage, Ky.; University of Louisville (Ky.) Medical Department, 1904; member of the American Medical Association; died March 4, aged 71, of cerebral hemorrhage and pneumonia.

James Monroe Bamber ● New Orleans; Memphis (Tenn.) Hospital Medical College, 1908; fellow of the American College of Physicians; member of the American Heart Association; served in the U. S. Public Health Service; formerly on the faculty of Tulane University of Louisiana School of Medicine; for many years affiliated with Touro Infirmary; on the staffs of the U. S. Marine and Charity hospitals; died March 14, aged 75, of hypertension and coronary sclerosis.

Paul John Bauerberg, Yonkers, N. Y.; New York University Medical College, New York, 1898; affiliated with Yonkers Professional and St. Joseph's hospitals; a member of the staff and past president of the medical board of Yonkers General Hospital; died March 11, aged 78, of acute coronary occlusion.

Milton Cain, McLouth, Kan.; University Medical College of Kansas City, 1895; died March 20, aged 83, of carcinoma of the liver.

James L. Cantwell, Bucklin, Mo.; St. Louis College of Physicians and Surgeons, 1889; member of the American Medical Association; also a dentist; died March 9, aged 88, of diabetes mellitus.

George Andrew Cathey, Portland, Ore.; University of Oregon Medical School, Portland, 1909; also a graduate in pharmacy; member of the American Medical Association; served during World War I; affiliated with Good Samaritan Hospital; died March 14, aged 67, of cerebral embolism.

Harrie H. Chamberlin ● Glendora, Calif.; University of Southern California College of Medicine, Los Angeles, 1906; served during World War I; member of the staff of the Pomona Valley Hospital in Pomona, where he died March 10, aged 67, of coronary thrombosis.

Frank Fenton Clair, Los Angeles; University of Southern California College of Medicine, Los Angeles, 1905; died in the Hospital of the Good Samaritan recently, aged 67, of acute cardiac failure after an operation for perforated duodenal ulcer.

George R. Dean, McPherson, Kan.; American Medical College, St. Louis, 1894; member of the American Medical Association; served as member of the state board of registration and examination; county health officer; on the staff of McPherson County Hospital; died in Wesley Hospital, Wichita, February 28, aged 78, of cerebral hemorrhage.

Martin Henry Deffenbaugh, Detroit; Lincoln Medical College of Cotner University, 1904; served in France during World War I; died in Research Hospital, Kansas City, Mo., March 9, aged 71, of coronary thrombosis and chronic nephritis.

Pierre James Fisher ● Marion, Ind.; Northwestern University Medical School, Chicago, 1931; president of the Grant County Medical Society; served during World War I; formerly affiliated with the Veterans Administration Hospital; on the staff of Marion General Hospital; died March 10, aged 54, of carcinoma of the liver and stomach.

Christian Gruhler ● Shenandoah, Pa.; Medico-Chirurgical College of Philadelphia, 1899; formerly a druggist; at one time served as a Schuylkill County commissioner; died in Jefferson Hospital, Philadelphia, February 27, aged 79.

Earle B. Guile, Flint, Mich.; Cleveland University of Medicine and Surgery, 1895; member of the American Medical Association; on the staffs of the Hurley, Women's and St. Joseph hospitals; died March 24, aged 79, of arteriosclerotic heart disease and diabetes mellitus.

John Ewell Hall ● Miami, Fla.; Medical Department of Tulane University of Louisiana, New Orleans, 1908; member of the American Urological Association; past president of the Dade County Medical Society; veteran of the Spanish-American War and World War I; died in Edgewater Hospital March 11, aged 72, of coronary occlusion.

Ernest Haselius Hawkins, Austin, Nev.; Gross Medical College, Denver, 1900; served as justice of the peace and coroner; died in the Battle Mountain (Nev.) Hospital March 7, aged 81, of arteriosclerosis and cerebral hemorrhage.

Walter Adam Hornaday ● Birmingham, Ala.; Indiana University School of Medicine, Indianapolis, 1924; member of the Indiana State Medical Society; died March 19, aged 54, of cancer.

Fred Forest Horning, Coeur d'Alene, Idaho; Washington University School of Medicine, St. Louis, 1931; member of the American Medical Association; served overseas during World War I; formerly county physician; died March 20, aged 52, of coronary occlusion.

Edmund Waldemar Ill ● Newark, N. J.; Columbia University College of Physicians and Surgeons, New York, 1917; on the staff of the Hospital of St. Barnabas and for Women and Children; died April 2, aged 59, of coronary heart disease.

Stanley Stuart Ingalls, Fulton, N. Y.; University of Vermont College of Medicine, Burlington, 1915; member of the American Medical Association; served during World War II; formerly associated with the Veterans Administration; died March 21, aged 57, of acute coronary thrombosis.

Charles Harcourt Johnson, Spring Valley, Minn.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1912; served during World War I; died March 16, aged 64.

William Arthur Johnstone ● Hanford, Calif.; College of Medical Evangelists, Loma Linda-Los Angeles, 1924; died in Glendale recently, aged 56, of coronary occlusion.

Alver Hubert Korper, St. Louis; St. Louis University School of Medicine, 1920; since 1946 associate professor of anatomy at his alma mater, where he was assistant in anatomy 1922-1923, instructor 1923-1928, senior instructor 1928-1932, administrative secretary to the dean 1928-1946 and assistant professor 1932-1946; anatomist, St. Mary's Group of Hospitals; died March 25, aged 55, of coronary occlusion.

Charles Hull Knauer, Trenton, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1920; affiliated with Trenton General Hospital, where he died March 22, aged 54, of cerebral thrombosis.

Fred Gaius Ladd, Cedar Rapids, Iowa; Keokuk (Iowa) Medical College, 1891; member of the American Medical Association; on the staffs of St. Luke's Hospital and Mercy Hospital, where he died March 10, aged 83, of virus pneumonia.

Addley Harrison McGregor, Randolph, Miss.; Memphis (Tenn.) Hospital Medical College, 1901; died March 20, aged 74, of cerebral hemorrhage.

Donald Murdoch McRae, Oakland, Calif.; Cooper Medical College, San Francisco, 1900; from 1915 to 1925 served in the medical corps of the U. S. Army; served with the U. S. Veterans Bureau; died March 12, aged 75, of aspiration pneumonia and myocarditis.

David Meade Mann, Bloomington, Ind.; Medical College of Virginia, Richmond, 1895; died March 21, aged 75, of cerebral hemorrhage.

Convas Lane Markham, Amityville, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1903; member of the American Medical Association and the American Psychiatric Association; for many years medical superintendent of Brunswick Home; a director of the Bank of Amityville; died March 21, aged 67.

Matthew Jackson Marmillion, Los Angeles; Flint Medical College of New Orleans University, New Orleans, 1903; died March 17, aged 78, of heart disease.

Otto George Marsh ● San Diego, Calif.; Jefferson Medical College of Philadelphia, 1909; also a pharmacist; fellow of the International College of Surgeons; served during World Wars I and II; served as county health officer and county coroner; formerly assistant superintendent of County Hospital; surgeon for the San Diego Transit System; died March 13, aged 63.

Mathilde Marie Masse, Boston; Tufts College Medical School, Boston, 1902; died February 25, of arteriosclerotic heart disease.

Harvey Edwin Massy ● Sharon, Pa.; Starling-Ohio Medical College, Columbus, 1911; served during World War I; chief medical examiner of draft board No. 4 during World War II; affiliated with the C. H. Buhl Hospital; died in St. Anthony's Hospital, St. Petersburg, Fla., March 11, aged 64, of dissecting aneurysm of the abdominal aorta.

Esther Ellen Maurer-Mast ● Mansfield, Ohio; University of Rochester School of Medicine and Dentistry, Rochester, N. Y., 1931; member of the American Trudeau Society; on the staff of Mansfield General Hospital; joint author of "Fundamentals of Nutrition"; died March 17, aged 46.

William Harvey Mease ● Uniontown, Pa.; University of Pittsburgh School of Medicine, 1937; specialist certified by the American Board of Obstetrics and Gynecology; served during World War II; died March 12, aged 36.

Lawrence Frank Michael, San Diego, Calif; College of Physicians and Surgeons, Baltimore, 1888; died February 27, aged 84, of hemiplegia and bronchopneumonia.

Wilbur H. Minford, Trenton, N. J.; Jefferson Medical College of Philadelphia, 1909; affiliated with New Jersey State Hospital, where he died March 14, aged 63, of coronary occlusion.

Cosmo Misischia, Joliet, Ill.; Chicago Medical School, 1932; affiliated with Silver Cross Hospital and St. Joseph's Hospital, where he died March 8, aged 44, of cirrhosis of the liver.

Joseph E. Moutoux, Indianapolis; Louisville (Ky.) Medical College, 1896; member of the American Medical Association; died March 7, aged 75, of coronary occlusion.

William Boyd Reading ● Galveston, Texas; University of Texas School of Medicine, Galveston, 1914; professor of pediatrics at his alma mater; specialist certified by the American Board of Pediatrics; member of the American Academy of Pediatrics; fellow of the American College of Physicians; on the staffs of John Sealy Hospital and St. Mary's Infirmary; died February 2, aged 60.

George William Schelm ● Battle Creek, Mich.; University of Illinois College of Medicine, Chicago, 1918, specialist certified by the American Board of Pathology; founding fellow of the College of American Pathologists; served on the staffs of Veterans Administration hospitals in various places; formerly affiliated with the Thomas D. Dee Memorial Hospital in Ogden, Utah; on the staff of the Leila Y. Post Montgomery Hospital, where he died March 11, aged 59, of carcinoma of the liver.

Carl Wagner Sherfey, Lincoln, Neb.; Lincoln Medical College, 1917; member of the American Medical Association; past president of the Hall County Medical Society; served as head of the Nebraska Soldiers' and Sailors' Home in Grand Island, where he was on the staff of the Cornhusker Ordnance Corporation Hospital during World War II; died February 26, aged 73, of cerebral hemorrhage.

Karl Jacob Simon, Canton, Ohio; Western Reserve University School of Medicine, Cleveland, 1932; fellow of the American College of Surgeons; member of the American Medical Association; served during World War II; on the staff of Mercy Hospital; died March 9, aged 43.

Louis Northrup Smith, St. Petersburg, Fla.; University of Pittsburgh School of Medicine, 1913; member of the American Medical Association and the Medical Society of the State of Pennsylvania; died in the Mound Park Hospital March 1, aged 73, of acute pulmonary edema and left ventricular failure.

Kenneth Albert Swartz ● Waupun, Wis.; Marquette University School of Medicine, Milwaukee, 1927; owner of a hospital bearing his name; died March 9, aged 51, of coronary thrombosis.

Maximillian Zigler, New York; Columbia University College of Physicians and Surgeons, New York, 1905; member of the American Medical Association and the American Urological Association; affiliated with Lebanon Hospital; died January 6, aged 68.

Foreign Letters

PARIS

(From a Regular Correspondent)

March 15, 1950.

International Conference on Streptomycin Therapy

The International Fund for Help to Children, which in 1949, in collaboration with the World Health Organization, organized in numerous countries a series of streptomycin treatments for tuberculous children, instituted a conference to compare results with those of countries in which this antibiotic has been in use for several years. This meeting was held Feb. 9-12, 1950 at the Hôpital des Enfants Malades, Paris, under the presidency of Prof. R. Debré. Representatives of ten nations attended.

Professor Choremis (Athens) reported the isolation of Koch's bacillus in the cerebrospinal fluid in cases in which there was no consecutive meningitis. Objective neurologic signs in young children were noted in 20 per cent of cases; fever, vomiting and headache were the main early signs of tuberculous meningitis. Professor Mozziconnacci (Paris) reported the appearance of prodromal symptoms in 60 per cent of the patients; in 4 cases he was able to isolate the bacillus from the cerebrospinal fluid before meningitis developed. Professor R. Cruikshank (Great Britain) emphasized the necessity of bacteriologic diagnosis and recommended the inoculation of the cerebrospinal fluid in Loevenstein's culture medium. Testing of the sensitivity of the strain to streptomycin is essential. A. Yllpo (Finland) and Professor Choremis (Greece), H. Brissaud and S. Kaplan (Paris) made a study during the course of treatment of the cerebrospinal fluid, which initially shows important fluctuations. Several pediatrists have pointed out that a rate of cellular elements under 10 per cubic millimeter and a sugar content under 45 mg. per hundred cubic centimeters were of more importance than a normal albumin rate.

Professors R. Debré (Paris), Dubois (Bruxelles) and Cocci (Florence) have obtained excellent results in meningitis with continuous and prolonged intramuscular and intraspinal treatment lasting six months or more.

Honor Smith (Oxford) stressed the advantage of neurosurgical treatment of tuberculous meningitis.

Monbrun (Paris), on the basis of observations in more than 1,000 cases of meningitis and miliary tuberculosis, pointed out that choroidal tubercles have been found in 87 per cent of the cases of miliary tuberculosis with meningitis, in 51 per cent of cases of miliary tuberculosis alone and in 17 per cent of the cases of meningitis alone. Professors Fanconi (Zurich) and D. E. Elephterion (Greece) studied the pathologic anatomy of tuberculous meningitis; the latter reported hemorrhages of the dura mater and hepatitis (perhaps epidemic). Professor Chaptal (Montpellier) presented some electroencephalograms showing signs of encephalitis in some cases and stressed the importance of these examinations. In her report on the combined therapies, Edith Lincoln (New York) discussed the results in meningitis and miliary tuberculosis she obtained with streptomycin and promizole® (4,2'-dianinophenyl-5'-thiazolylsulfone). Professor Cocchi administered the sulfone intravenously and large doses of vitamins A and D. A large number of authors used para-aminosalicylic acid with streptomycin. Other communications were presented by Professors E. Bernard (Paris), Bernheim (Lyons), Lorenz and Ruzicka (Australia), Drs. Houstek (Czechoslovakia), Todorovic (Yugoslavia), O. Waszhocket (Finland) and Daniels (London). Patients in Professor Debré's service at the Brevannes asylum were presented. A lunch was offered by Dr. L. Leclainche, general director of the Poor Law Administration.

Studies on Exchange Transfusion

R. Moreau treated 3 patients with postabortal anuric nephritis with exchange transfusion, with recovery in 2. He advises exchange transfusions every second or third day at a rate of 5 to 7 liters. He advocates cautious rehydration, a 1,000 calory diet and no chlorides during the anuric period. He noted that the intravenous injection of procaine hydrochloride had no effect on the diuresis. The death of the third patient, occurring in the course of the eighth exchange transfusion, when the urea blood rate had already fallen and the diuresis had been resumed, may be explained, according to the author, by transfusional shock. In the discussion of this report to the National Academy of Medicine, Professor Lemière and M. Chevassu confirmed the value of the exchange transfusion method for anuria, the prognosis for which has become hopeful. The value of this method has also been demonstrated by Professor Pasteur-Valery-Radot and Milliez and their associates in acute anuric nephritis.

Professor Lian, F. Sigier and their co-workers obtained spectacular results with this treatment in 2 women with postabortal septicemia with Bacillus perfringens and believe that exchange transfusion is to be preferred to the peritoneal irrigation for infectious anurias.

Coumel, Molinier and Turkel studied the ureic curve in the course of transfusional injection in a case of leptospirosis coinciding with a mixed vaccination and noted that the urea rate did not fall progressively; during injection of the first 3 liters it remained at about 5 Gm., fell to 2.30 Gm. from the third to the sixth liter and rose again to 4.16 Gm. from the seventh to the eighth liter. The authors also noted that the rising rates of the citrate (injected with the blood) and of the calcium are parallel and rapid until 2 liters have been injected. They diminish slightly during injection of the following 2 liters and then rise again rapidly and become stabilized. The exchange transfusion appears to have no effect on the appearance of antibodies. The serologic diagnosis of the blood sample taken the eleventh day was positive for leptospirosis and typhoid and paratyphoid vaccinal agglutinins.

F. Siguier, R. Fasquelle and their associates in a study of staphylococcic septicemia tried unsuccessfully to sensitize the organism to antitoxin through exchange transfusion.

Registering the Currents of Action on an Embryo's Heart

At the same meeting of this society J. B. Milovanovich, A. Delaunay and H. Kaufmann set forth their researches on the fragment of the heart of the 9 day old chick embryo, which, placed in a culture medium consisting of plasma and guinea pig's embryonic juice, beats regularly. They registered the currents of action with an apparatus comprising a cathodic tube provided with an amplification device of a sensitivity of 4 cm. per 30 microvolts; two electrodes are placed on either part of the fragment. The authors obtained a curve showing the existence of a rapid (4/100 of a second) R wave of 3 microvolts and of a slow and ample diphasic T wave. The authors emphasized that this study proves that the depolarization wave has the same rapidity as that in adult myocardium, whereas the repolarization wave on the cardiac embryonic tissues is slow.

Exchange Transfusions and Toxicosis

S. Boruchin (Paris) in a paper on toxicosis, published in *Médecine Infantile* (organ of the National Center for Infancy), studied the biologic condition of the newborn child deprived of its mother's milk and exposed to the danger of toxicosis. Taking as a basis his observations, made 17 years ago, on the beneficial effect of transfusions of the mother's blood and the role of blood transfusions in the treatment of toxicosis, the author proposes to use exchange transfusion for this disease. The author expects that this new method may help control metabolic disorders. On

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the other hand, exchange transfusion by the crossed method may furnish maternal protective substances and eliminate presumed toxins. On account of the present ignorance of the *primum movens* of this disease it will be necessary to begin with simple exchange transfusion using the mother's blood whenever possible. The author stresses the scientific interest of these trials, which would permit the research worker to study all the blood of the newborn child in a state of toxicosis. Two points are important: (1) the necessity of acting quickly to prevent irreversible hepatosteatosis, and (2) strict selection of the donor's blood, including the mother's, with careful checking of the history for malaria, which can provoke hemolysis in the newborn.

Second International Congress on Asthma

This congress will take place at Mont-Dore June 3-5, 1950, under the presidency of Prof. Pasteur Valery Radot. Information pertaining to medicine may be obtained from Dr. J. Galup, Medical Secretary, 59 rue Bonaparte, Paris (6°). All other information may be obtained from M. Lorin, Administrative Secretary, 72 Faubourg St., Honoré, Paris (8°).

NORWAY

(From a Regular Correspondent)

Oslo, April 7, 1950.

Mass Vaccination with BCG

The carefully controlled BCG vaccinations carried out by Aronson and others have been made possible by the use of relatively small numbers of vaccinated persons. When there are millions of vaccinations it is difficult to keep track of them. Dr. T. Gedde-Dahl, secretary-general of the Norwegian National Association Against Tuberculosis, has suggested that it will take some time to correlate a decline in the tuberculosis death rate with BCG vaccination. It will take less time to correlate a declining tuberculosis morbidity with this vaccination. Norway is now the only Scandinavian country in which erythema nodosum and pleurisy have been compulsorily notifiable for several years, and these notifications may provide a clue to the effects of BCG vaccination.

Incidence of Erythema Nodosum and Pleurisy

	Erythema Nodosum	Pleurisy
1941	1,374	2,980
1942	1,416	2,687
1943	1,155	2,505
1944	1,192	2,251
1945	1,073	2,108
1946	1,147	1,901
1947	820	1,208
1948	634	1,247

The decline was most evident in the last two years, and these are the years in which mass vaccination with BCG has been carried out for the first time. In 1947 in Norway some 35,000 persons were vaccinated with BCG, and in 1948 about 135,000. Of course, several factors other than BCG vaccination have been operative in the period under review. The general standard of living has risen since the war, and mass roentgenography followed by appropriate action has made antituberculosis work more effective than ever. In the period 1943-1948, more than a million Norwegians over the age of 14 were examined roentgenographically. To learn whether the decline in the notifications shown in the table is due to a decline in the number of primary infections following a reduction of the infection risk or to resistance to infection effected by BCG, Dr. Gedde-Dahl suggests every new notification of tuberculosis should be accompanied with a statement to the effect that the person concerned has or has not been vaccinated with BCG.

Venereal Disease Among Norwegian Troops in Germany

When Norway undertook to send a contingent of troops to the British zone in Germany in 1947, there was much anxiety over the outcome, moral and physical, for the occupation forces. The Norwegian lay press discussed with considerable heat the pros and cons of instructing the young Norwegian soldier in methods for the prevention of venereal disease. Behind this discussion there was little reliable knowledge of the facts. Now more is known, thanks to a study by Dr. Tore Berdal of the Norwegian Army Medical Service. About 22,000 Norwegians served in the army of occupation between February 1947 and August 1949, when five brigades were stationed in rotation in Germany. The 202 cases of primary syphilis observed throughout this period were unevenly distributed, the syphilis rate being highest in the first brigade, which in six months had 61 cases (14 per thousand). The rate for the Norwegian army serving at home in the same period was only 2 per thousand. The last of the five brigades which served in 1949 in Germany had a syphilis rate of only 4.1 per thousand (18 cases), whereas in the same period not a single case of syphilis was observed in the Norwegian army at home. There were as many as 40 cases of latent syphilis discovered by the routine serologic control of the troops on their return to Norway. The observation that 20 per cent of the cases of syphilis were latent tallies with the opinion of Moore of Baltimore that every fifth syphilitic male presents no clinical manifestations of early syphilis.

In the same period there were 646 cases of gonorrhea, and here, too, the sickness rate was highest in the first brigade (35 per thousand) and lowest in the last brigade (20.5 per thousand). The gonorrhea rate in this last brigade was 13 times higher than in the Norwegian troops stationed at home. Dr. Berdal finds that the high venereal disease rate among the Norwegian troops in Germany must be traced to (1) the great frequency of these diseases both during and after the war in Germany, (2) the great extent to which the Norwegians fraternized with German women, about 42 per cent of the 2,700 Norwegians in the last brigade having indulged in sexual intercourse during their service in Germany, (3) the extensive neglect of condoms, which were used by only about 30 per cent, (4) the abuse of alcohol and (5) the stationing of the Norwegians on the fringe of German towns where the Norwegians had easy access to women. The decline in the sickness rate in the period under review may largely be traced to educational propaganda.

Cancer of Respiratory Tract

In a communication to the Norwegian Surgical Association, subsequently published in the *Journal of the Norwegian Medical Association*, Dr. V. H. Springett drew attention to some curious features of cancer of the respiratory tract as observed in Norway and as compared with the incidence of the same disease in England and Wales. In 1946 in Norway the mortality from cancer of the larynx was only one quarter that in England and Wales. This geographic difference was still greater with regard to the deaths from cancer of the lungs, the mortality being five times higher in England and Wales than in Norway. In this country the mortality from cancer of the larynx is twice as great in men as in women, whereas in England and Wales the ratio of men to women is 4:1.

In both countries there has been little change during the last 25 years in the ratio of the deaths from cancer of the larynx to the deaths from all forms of cancer. But in both countries and in both sexes there has been a rise in the mortality from cancer of the lungs, which in the case of women in England and Wales rose from about 1 per cent to fully 3 per cent of all the cancer deaths during the last 25 years. Between the periods 1911-1920 and 1935-1939, the mortality from cancer of the lungs in England and Wales has increased ninefold for men but only fourfold for women.

Dr. Springett finds that the low mortality from cancer of the larynx and lungs in Norway, as compared with that in England and Wales, cannot be explained by a reference to differences in the registration and classification of these diseases in the two countries. There must be other operative factors, but he does not venture to guess what they are, and he contents himself with stressing the surprising observation that, while the relative mortality from cancer of the larynx has shown no great change in either Norway or England during the last 25 years, the relative mortality from cancer of the lungs has shown a decided rise in the same period in both countries—a nearly tenfold rise in the case of men in England and Wales.

ITALY

(From a Regular Correspondent)

FLORENCE, March 30, 1950.

Congress of Phthisiology

The ninth National Congress of the Italian Society of Phthisiology held at Montecatini was attended by more than 700 physicians. The inaugural session was presided over by Prof. Mario Cotellessa, High Commissioner of Hygiene and Public Health Service. Prof. Gennaro Costantini, president of the Italian Federation Against Tuberculosis, commemorated Edoardo Maragliano with a pupil's affection and admiration on the first centenary of his birth. He stressed his scientific activity and his doctrine on antituberculous immunity.

Professor Giovanardi, director of the Institute of Hygiene at the University of Milan, spoke on antituberculous vaccination and on the recent advances in the field of tuberculosis epidemiology. In countries where the tuberculosis mortality is decreasing, an important decrease in the tuberculization of the population has been observed, with shifting of the primary infection from infancy to adolescence or adulthood. The speaker discussed various vaccines recommended for the prophylaxis of tuberculosis (Maragliano's vaccine; BCG, Petragnani anatuberculine). He predicted that the health authorities would focus their attention on prophylaxis of tuberculosis by immunization and soon antituberculous vaccination would be adopted in Italy. A lively discussion followed Dr. Giovanardi's report. Among those who joined in the discussion, Professor Salvioli pointed out the inconveniences caused by the use of BCG, while Professor Monaldi reported the excellent results observed during a recent trip to the Scandinavian countries, where this method of prophylaxis is in use. Professor Mazzetti emphasized that vaccines prepared from killed bacilli have a similar action to that of BCG, without its inconveniences.

The contribution of pathologic anatomy to the progress of surgical therapy and chemotherapy of tuberculosis was discussed by Prof. Carlo Pana of the Forlanini Institute in Rome. He stated that the use of antibiotics is adding new problems to thoracic surgery and that exactly how much has been achieved by surgical therapy alone and what results can be expected from treatment with antibiotics should be determined. Speaking of extrapleural pneumothorax, he discussed the technical skill and the methods of approach that the surgeon must follow to obtain a pneumothorax similar to intrapleural pneumothorax. With respect to thoracoplasty, he subdivided the cases he studied post mortem, according to the methods of surgery adopted: Proust-Maurer, Semb and Morelli's apicoaxillary "covering" technic.

With respect to antibiotic therapy, phenomena of circumscription of the tubercles were observed in the miliary elements due to an increase of the organic defenses, a phenomenon of regression and involution of the tubercles themselves caused by the attack of the antibiotic on the germs and their partigens, leading to the formation of purely lymphoid tubercles or of stellate cicatrization. In chronic miliary conglomerates, streptomycin provides a more rapid and complete cure than that which may occur spontaneously in favorable instances. The pronounced exudative processes are favorably modified by the regression of the perifocal reactions. The caseous nodular lesions are little altered by streptomycin, except the postoperative nodules, in which the antibiotic is of noticeable efficacy. Streptomycin may exert a beneficial action even on a cavity, especially if it is a recent one. With the use of paraaminosalicylic acid modifications in the cavitary and bronchial secretions and fibrinous transformations of the exudate in some pulmonary areas may be observed.

Professor Omodei-Zorini spoke of the therapeutic use of streptomycin in human tuberculosis of the respiratory tract. Basing his conclusions on observations of 865 patients, the speaker said that the dose to be used in general is 0.01 to 0.02 Gm. per kilogram of body weight in adults and 0.03 to 0.04 Gm. in children. The intramuscular administration always represents the fundamental treatment. He concluded that in tuberculosis of children the use of streptomycin is imperative in infants and in the forms involving lungs and lymph nodes with a progressive course in early childhood. In the acute miliary form it is absolutely indicated; it is often necessary to combine it with collapse therapy as a second stage procedure. In chronic miliary tuberculosis good results may be obtained by the administration of antibiotics. In the pulmonary form in its initial stage the administration of antibiotic is indicated as a single procedure, while in the ulcerative form it is preferable to combine its use with pneumothorax. In acute extensive bronchopneumonitis, streptomycin is indispensable, the results often being excellent. In caseous lobar pneumonia the results are limited. In surgical treatment of the thorax, streptomycin must be used systematically in all the cases of extrapleural pneumothorax and excision of the lung. In large pulmonary cavities or in cavities with considerable secretion a mixed biologic-mechanical treatment with "retracted lobe" according to Omedei-Zorini and Bottari's technic is indicated.

Professor Cattaneo discussed the inhibitory action of streptomycin and its importance in treatment of tuberculosis. Professor Daddi dealt with aspects of the action of streptomycin on Koch's bacilli and the tuberculous organisms. Professor Sanguigno spoke of antibiotics in the treatment of tuberculosis of meninges, pleura and peritoneum. Professor Battigelli reported the results of two years of streptomycin therapy in hospitals of the city of Trieste.

SWITZERLAND

(From a Regular Correspondent)

GENEVA, April 6, 1950.

International Meeting of the Medical and Surgical Film Institute

In collaboration with the Swiss medical journal *Medecine et Hygiene*, the International Medical and Surgical Film Institute in Paris (President, Eric Duvivier) was organized in Geneva (Aula of the University and "Palais des Nations"), and a meeting held March 30 to April 1, 1950 under the chairmanship of Prof. A. Jentzer, chief of the Surgical clinic of the Geneva University. It was attended by more than 600 physicians, surgeons and students, who saw more than 105 films from 10 countries of Europe and America. The United States had sent some of their best films on their experiments in physiology and on the latest surgical treatment of congenital cardiovascular diseases.

The United Kingdom, Spain, The Netherlands, Uruguay, Germany, Italy and Switzerland also sent excellent films concerning modern surgery and medicine. The USSR sent a film from Professor Youdine (Moscow) on an artificial esophagus. Another Russian film showed the reanimation of the organism, especially of dogs' heads which had been cut previously and

presumably were lifeless, the pupil reflex being completely abolished. After the dead head had been placed in a blood circuit the pupil was revived and the ears pricked up at the noise made by a hammer on the table on which it rested.

The jury composed of the spectators and presided over by Professor Portmann, dean of the Medical Faculty of Bordeaux (France), gave the Great International Prize for Scientific Films to the film of Professor Santy (Lyons, France) on the new operation of anastomosis between the portal and renal veins, indicated now as the treatment for cirrhosis.

The Great International Pedagogic Prize was given to Professor De Vernejoul (Marseilles, France), who described the latest technics of gastrectomy in his film.

The Great International Prize for Scientific Research was given to the film of Professor Amsler (Zurich, Switzerland) on the elements of the liquid of the anterior chamber of the eye.

The meeting was so successful that it was decided to create in Geneva a Delegation of the International Center of Medical and Surgical Films ("Art et Science," 3, rue de Siam, Paris). It will be presided over by Professor Jentzer; the secretaryship will have permanent headquarters in the offices *Medecine et Hygiene*, 15 Boulevard des Philosophes, Geneva, Switzerland; a *Kinemathek* will be prepared for the use of medical faculties and of physicians or surgeons. The delegation will also organize annual meetings at which the latest and best films will be presented to the Swiss medical profession in different towns of Switzerland.

BRAZIL

(From a Regular Correspondent)

SÃO PAULO, April 10, 1950.

Maternal Mortality

In a recent paper, Drs. J. Onofre Araujo and B. Neme reported on a study of 79 deaths among 7,686 patients admitted to the obstetrical clinic of the Medical School of São Paulo under the supervision of Prof. Raul Briquet. The authors tried to ascertain the cause. They observed that medical assistance or lack of it before admission and to the condition of the patients on admission to the emergency ward were important factors. The obstetrical clinic of the university is the only maternity hospital in São Paulo receiving patients with puerperal infection. They classified the deaths into three groups:

1. Those related directly to pregnancy (43 cases), which were subdivided into (*a*) puerperal infection (4.46 per cent and 21.5 of the total deaths, (*b*) eclampsia (1.47 and 18.92 per cent of the deaths) and (*c*) hemorrhage (1.21 and 13.92 per cent of the deaths).

Drs. Araujo and Neme emphasized that puerperal infection still heads the list of this group, because peritonitis after intentional abortion was the principal factor in the deaths in this group (10 cases in 17). Excluding the deaths from peritonitis following intentional abortion, the causes of death in this group appeared in the following order: toxemia, hemorrhage, heart disease and infection.

2. Those derived from diseases that could be aggravated by pregnancy (20 cases): (*a*) heart disease (3.7 and 12.65 per cent of the deaths), (*b*) embolic process (6.33 per cent) and tuberculosis (also 6.33 per cent).

3. Deaths independent of the pregnant state (16 cases): pernicious anemia, acute glomerulonephritis, intestinal obstruction, chronic glomerulonephritis, cortical renal necrosis, meningitis, cerebral abscess, syphilitic aorta, acute hepatic necrosis and megaloesophagus. The cause in 2 cases was not determined.

After considering the condition of the patients on admission and analyzing the autopsies, which were performed in 80 per cent of the cases, Drs. Araujo and Neme concluded that 56.8 per cent of the deaths could have been prevented if the patients had received medical assistance sooner or had had adequate prenatal care. They asserted that the deaths were due to insufficient public education with respect to sanitation, lack of prenatal care, inadequate home assistance and the small number of beds for obstetric cases in hospitals, even in large centers.

Peritoneal Use of Sulfonamides

Dr. Mario Montenegro studied the topical application of sulfonamides, especially their intraperitoneal use. He called this method inefficient and harmful to the peritoneum and intraperitoneal organs. According to him, the peritoneal use of sulfonamides should be discontinued. A summary of 172 cases of acute and subacute appendicitis complicated with peritonitis, operated on in the service of Prof. B. Montenegro, was presented by Dr. Montenegro. The results were satisfactory, although the sulfonamides were never used intraperitoneally.

COLOMBIA

(From a Regular Correspondent)

BOGOTÁ, April 5, 1950.

American Medical Mission

An American medical mission which was sent by the Unitarian Service Committee was in Colombia during October and November 1949. The president and vice president of the mission were Drs. George H. Humphreys II and McKeen Cattell, respectively; the other members were Drs. Rafael Dominguez P., Charney Landis, Salvatore P. Lucia, Donovan J. McCune and Perry P. Volpitto. Mr. Jose Maria Chaves was the coordinator and Mrs. Marie Danielson the secretary. The mission visited Bogotá, Medellín, Barranquilla and Cartagena. Their work included lectures, seminar courses, surgical operations, visits to hospitals, clinics and medical centers and medical reunions. They examined the facilities and medical equipment of Colombia and showed the modern technic for using the equipment and how to repair or manufacture some parts of equipment. They visited the medical schools of the universities and made suggestions to improve facilities at little cost. One of the most important tasks of the mission was the organization of academic standards and of teaching methods in the universities of Colombia. In the course of the meetings with the Councils of Directors of the Universities of Bogotá, Medellín and Cartagena the relative methods of organization and teaching methods in either American or Colombian medical schools were discussed. The suggestions made by the members of the mission are to be accepted in the programs of the schools of medicine of Colombia. They included a greater emphasis on preclinical studies, diminution of the number of students admitted to medical schools, increase of the number of full time teachers and close supervision of the clinical work of the students. The report of the members of the mission consists of 78 pages.

Distinguished Visitors

During February and March, 1950, the following visitors lectured before the faculties of medicine of Colombia. Dr. Herbert Koteen, a professor at Cornell University, New York, and a specialist on infectious diseases, spoke at the Faculty of Medicine of Bogotá on antibiotics and modern therapy of syphilis. Dr. Luis Ignacio Barraquer of Barcelona spoke before the Colombian Society of Ophthalmology and Otorhinolaryngology on the modern technics used for operation on cataract and on keratoplasty. In the hospitals of Bogotá he demonstrated certain surgical technics. Dr. Arnaldo Rascovsky of Buenos Aires, a psychoanalyst, lectured at several medical centers, the national library, the Faculty of Medicine of Bogotá and before the Colombian Society of Psychopathology. He spoke on psychoanalysis and psychogenesis of obesity and of epilepsy. He stimulated in the members of the Colombian medical centers an interest in establishing a school of psychoanalysis in Colombia.

Correspondence

ANTIHISTAMINICS AND COLDS

To the Editor:—In view of the intense interest in the use of antihistaminics for the common cold and because legislation has been proposed in New York State to prevent over the counter sales of these substances, it was thought advisable by the Erie County Medical Society to study this problem. As a member of the committee on pharmacy, I was delegated to collect this data. A return postal card was sent to each member of the county society. One thousand cards were sent out. Two hundred and ninety-six physicians reported on the antihistaminics. Of this group, 114 physicians found that antihistaminics were effective with respect to the symptoms of the common cold. However, the percentage of patients who obtained relief varied considerably: 59 physicians reported that from 1 to 25 per cent of their patients had benefit in relief of the common cold; 37 found that only 26 to 50 per cent of patients were helped, and only 25 reporters showed that more than 50 per cent of their patients received good results. Hence, approximately only 10 per cent of the physicians found the antihistaminics to be of benefit to 50 per cent or more of their patients in the relief of symptoms of the common cold. However, 223 of the 247 physicians reported the development of the usual side effects of the antihistaminics, such as drowsiness and dizziness.

It would appear from this survey that the advertising claims made by the various pharmaceutic houses promoting the over the counter sales of these substances for care of the common cold are greatly exaggerated and the incidence of their side effects greatly minimized. It is my belief that these discrepancies should be corrected in advertising claims and, better still, these drugs should be prohibited from over the counter sales without prescription.

Carl E. Arbesman, M.D., Chairman,
Committee on Therapy,
American Academy of Allergy

DISCARDED DRUG SAMPLES

To the Editor:—I was interested in the recent brief article from a Post Office Department employee concerning the discarding in post office waste baskets of drug samples by recipient physicians. This article prompts me to write you about another hazard which arises from the mailing of samples of drugs to physicians at their homes.

Until recently I lived in Park Merced, a housing project owned by the Metropolitan Life Insurance Company which includes 1,800 apartments and soon will have double that number. Numerous samples of drugs were sent to my home by various pharmaceutical houses, most of which went into the garbage can. In Park Merced there were (and are) vast numbers of young children, some of whom rummage through waste containers and garbage cans and at least one drug was sampled by a child while I was there.

Can the American Medical Association persuade the drug manufacturers not to mail samples to doctors at their home address?

Donald A. Carson, M.D., San Francisco.

ATHEROSCLEROSIS

To the Editor:—In a Current Comment, in The Journal, January 28, page 262, mention is made of experiments in which dietary hypercholesteremia in the rabbit resulted consistently in the production of atherosclerosis. However, in the alloxan diabetic rabbit this effect was not produced. This work was difficult to reconcile with the higher incidence of atherosclerosis which occurs in human diabetes, until the publication of J. B. Firstbrook (*Science* 111:31 [Jan. 13] 1950), which was not included in your comment, possibly because it had not yet appeared when your article was being prepared. In normal rabbits he has demonstrated the importance of differences in the change of weight during the experiment on the production of atherosclerosis. If the food intake of rabbits fed cholesterol was diminished, the incidence of atherosclerosis was also diminished. Dr. Firstbrook's work makes it appear that the low incidence of experimental atherosclerosis in rabbits rendered diabetic with alloxan before cholesterol administration is probably associated with the characteristic emaciation of these animals, rather than a specific effect of the diabetes.

David Monk Adams,
Banting and Best Department of Medical
Research, University of Toronto, Canada.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Chiropractic Institute as Medical School.—The defendant chiropractors were charged by indictment with unlawfully using a name, title and descriptive material which indicated and implied that they were carrying on a school of medicine in violation of the Education Law. The indictment was dismissed by the court of general sessions so the prosecution appealed to the supreme court, appellate division, first department, New York.

The defendants are the principal officers and teachers of a school known as "The Chiropractic Institute of New York," which is concededly unlicensed and has received no charter to carry on a school of medicine. Under Education Law, section 6501, subdivision 3, a medical school is defined as "any medical school, college or department of a university, registered by the regents as maintaining a proper medical standard and as legally incorporated." The same section, subdivision 4, so far as relevant, defines the practice of "medicine" as holding oneself out as being able "to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition" and undertaking "by any means or method" to diagnose or treat the same.

The catalog of the Chiropractic Institute of New York states, "The chiropractor analyzes the mechanical imperfections of the human body, determines where they interfere with nerves and adjusts the body parts back to normal position. This adjustment frees the nerves and puts the cells back under control. Health is the natural result." After setting forth the names of the faculty and the courses, many of which the evidence indicated were courses usually taught in recognized medical schools, the catalog then sets forth the hours and the type of training in various departments of the school, e. g., anatomy, neurology, chemistry, pathology, diagnosis, chiropractic and special clinical subjects.

It is true, said the supreme court, that a number of the subjects mentioned in the catalog as subjects of instruction in the institute are also taught in courses of psychology or biology in colleges and high schools; if that were all the catalog set forth, there would be no adequate proof sufficient to sustain the indictment. Similarly, the court continued, the mere use of the name "The Chiropractic Institute of New York" on the pamphlet or otherwise would be insufficient. But the descriptive material in the catalog read as a whole, as it must be, and considered in all its parts and their relations to each other, together with the claimed admissions of defendants showing the use of the catalog, are sufficient in our opinion to indicate that the school and the defendants held themselves out as teaching the diagnosis and treatment of human diseases with a view to a cure and accordingly conducting a school of medicine. It is true, the appellate division continued, that the treatment is not with drugs or medicines as such but through chiropractic methods; that is, through what the catalog calls the principles

and practice of "chiropractic" or "the therapeutic science of body mechanics." But the statute forbids the unlicensed practice of medicine "by any means or method" and the unauthorized conducting of a school of "medicine."

The statute was passed not merely, as defendants contend, to prevent any candidate or student from being deceived or defrauded but for the protection of the public in the interest of public health, continued the court. On adequate factual proof showing that the defendants were actually diagnosing and treating human diseases, the courts have frequently held that unlicensed practitioners of chiropractic are subject to penalties for the illegal practice of medicine. In the case before us the first count of the indictment is based not on the mere use of the words "Chiropractic Institute" but on corroborative proof in the Grand Jury minutes, read with the catalog, all of which shows that the school and defendants, as its principal officers and teachers, held themselves out to teach the students attending therein the diagnosis and treatment of human diseases with a view to a cure and, accordingly, held themselves out as a school of "medicine" within the meaning of Education Law. As the school was concededly unlicensed, sufficient was shown to support the first count of the indictment.

Accordingly the order of the trial judge in dismissing the first count of the indictment was reversed, and it was found that the defendants were engaged in the unlawful conduct of a medical school.—*People v. Kightlinger, et al. 93 N. Y. S. (2d) 636 (1949).*

Medical Examinations and Licensure

COMING EXAMINATIONS AND MEETINGS

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: *Parts I and II.* Various locations, June 19-21. Final date for accepting applications is May 19. *Part III.* Twenty-nine centers, June 6-29. Registration closes on May 6. Exec. Sec., Mr. F. S. Elwood, 225 S. 15th Street, Philadelphia.

EXAMINING BOARDS IN SPECIALTIES

AMERICAN BOARD OF ANESTHESIOLOGY: *Written.* Various locations, July 21. *Oral.* Chicago, Oct. 8-11. Sec., Dr. Curtiss B. Hicheon, 745 Fifth Ave, New York 22.

AMERICAN BOARD OF INTERNAL MEDICINE: *Oral.* San Francisco, June 21-23. The oral examinations in the subspecialties will be held at the same time and places. *Written.* Oct. 16. Final date for acceptance of applications is May 1. Asst. Sec., Dr. William A. Werrell, 1 West Main Street, Madison 3, Wis.

AMERICAN BOARD OF NEUROLOGICAL SURGERY: *Oral.* Chicago, June 3. Applications no longer accepted. Chicago, Oct, 1950. Final date for filing applications is April 30. Sec., Dr. W. J. German, 789 Howard Ave., New Haven, Conn.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY, INC. *Oral Part II.* Atlantic City, May 21-27. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh.

AMERICAN BOARD OF OPHTHALMOLOGY: *Written.* Various Centers, January 1951. Final date for filing applications is July 1, 1950. *Practical.* Boston, May 22-25; Chicago, Oct. 2-6; West Coast, Jan. 1951. Sec., Dr. Edwin B. Dunphy, 56 Ivie Road, Cape Cottage, Maine.

AMERICAN BOARD OF OTOLARYNGOLOGY: *Oral.* San Francisco, May, Chicago, October. Sec., Dr. Dean M. Lierle, University Hospital, Iowa City.

AMERICAN BOARD OF PEDIATRICS: San Francisco, June 30-July 2. Exec. Sec., Dr. John McK. Mitchell, 6 Cushman Road, Rosemont, Pa.

AMERICAN BOARD OF PHYSICAL MEDICINE AND REHABILITATION: *Oral and Written.* Boston, Aug. 26-27. Final date for filing applications is April 1. Sec., Dr. Robert L. Bennett, 30 N. Michigan Ave., Chicago.

AMERICAN BOARD OF PLASTIC SURGERY: *Oral.* May-June. Sec., Dr. Louis T. Byars, 4647 Pershing Avenue, St. Louis, Mo.

AMERICAN BOARD OF PREVENTIVE MEDICINE AND PUBLIC HEALTH: *Written.* Portland, Ore., May 28. *Oral.* Portland, Ore., May 29. Sec., Dr. E. L. Stebbins, 615 N. Wolfe St., Baltimore 5, Md.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: San Francisco, June 23-24. Applications no longer accepted. Next examination, December 1950. Final date for filing applications is Sept. 1.

AMERICAN BOARD OF RADIOLOGY: *Oral.* Chicago, week of June 18. Sec., Dr. B. R. Kirklin, 102 10 Second Ave., S.W., Rochester, Minn.

AMERICAN BOARD OF SURGERY: *Written.* Various centers, Oct. 23. Final date for filing applications is July 1. Sec., Dr. J. Stewart Rodman, 225 South 15th Street, Philadelphia.

AMERICAN BOARD OF UROLOGY: Chicago, Feb. 10-14, 1951. Final date for filing applications is Sept. 1, 1950. Sec., Dr. Harry Culver, 7935 Sunnyside Road, Minneapolis 21.

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 27-29. Sec., Dr. D. G. Gill, 519 Dexter Avenue, Montgomery.

ALASKA: * Juneau, Sept. 5. Special examinations given on application. Sec., Dr. W. M. Whitehead, Box 140, Juneau.

ARKANSAS: * *Examination.* Little Rock, June 8-9. Sec., Dr. Joe Verser, Harrisburg. Homeopathic. Little Rock, June and November. Sec., Dr. Carl S. Bungart, 105 N. 14th St., Fort Smith. *Eclectic.* Little Rock, June 8-9. Sec., Dr. Clarence H. Young, 1415 Main Street, Little Rock.

CALIFORNIA: *Examination, Written.* San Francisco, June 19-22; Los Angeles, Aug. 21-24; Sacramento, Oct. 16-19. *Examination, Oral and Clinical for Foreign Medical School Graduates.* San Francisco, June 18; Los Angeles, Aug. 20; San Francisco, Nov. 12. *Reciprocity, Oral Examination.* San Francisco, June 17; Los Angeles, Aug. 19; San Francisco, Nov. 11. Sec., Dr. Frederick N. Scatena, 1020 N Street, Sacramento 14.

CONNECTICUT: * *Examination.* Hartford, July 11-12. Sec. to the Board, Dr. Creighton Barker, 160 St. Ronan St., New Haven. *Homeopathic.* Derby, July 11-12. Sec., Dr. Donald A. Davis, 38 Elizabeth St., Derby.

DELAWARE: *Examination.* Dover, July 11-13. *Reciprocity.* Dover, July 20. Sec., Dr. J. S. McDaniel, 229 S. State St., Dover.

FLORIDA: * Jacksonville, June 25-27. Sec. Dr. Frank D. Gray, 12 N Rosalind Avenue, Orlando.

GEORGIA: *Examination.* Atlanta and Augusta, June. *Endorsement.* Atlanta, June. Sec., Mr. R. C. Coleman, 111 State Capitol, Atlanta 3

HAWAII: *Examination.* Honolulu, July 10-13. Sec., Dr. I. L. Tilden 1020 Kapiolani St., Honolulu.

IDAHO: Boise, July 10. Sec., Mr. Armand L. Bird, 305 Sun Bldg Boise.

INDIANA: *Examination,* Indianapolis, June. Sec., Dr. Paul R. Tindall, 1138 K. of P. Bldg., Indianapolis.

IOWA: * *Examination.* Iowa City, June 12-14. Sec., Dr. M. A. Royal, 506 Fleming Building, Des Moines 19.

KANSAS: Kansas City, June 7-8. Sec., Dr. J. F. Hassig, 905 N 7th Street, Kansas City.

KENTUCKY: *Examination.* Louisville, June 14-16. Sec., Dr. Bruce Underwood, 620 S. 3rd Street, Louisville 2.

LOUISIANA: New Orleans, June 8-10. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: *Examination and Reciprocity.* Augusta, July 11-12. Sec., Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Examination.* Baltimore, June 20-23. Sec. Dr. Lewis P. Gundry, 1213 Cathedral Street, Baltimore 1. *Homeopathic.* Baltimore, June 20-21. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MASSACHUSETTS: *Examination.* Boston, July 11-14. Sec., Dr. George L. Schadt, Room 37, State House, Boston 33.

MICHIGAN: * *Examination.* Ann Arbor and Detroit, June 12-14. Sec., Dr. J. Earl McIntyre, 100 W. Allegan St., Lansing 8.

MISSISSIPPI: Jackson, June 20-21. Asst. Sec., Dr. R. N. Whitfield, Jackson 113.

MISSOURI: Examination, St. Louis, May 31-June 2 and June 7-9. Exec. Sec., Mr. John A. Hailey, Box 4, State Capitol Building, Jefferson City.

NEBRASKA: * *Examination.* Omaha, June 5-7. Director, Bureau of Examining Boards, Mr. Oscar P. Humble, 1009 State Capitol Building, Lincoln 9.

NEW HAMPSHIRE: Concord, Sept. 13. Sec., Dr. John Samuel Wheeler, 107 State House, Concord.

NEW JERSEY: *Examination,* Trenton, June 20-23. Sec., Dr. E. S Hallinger, 28 West State Street, Trenton.

NEW YORK: *Examination.* Albany, Buffalo, New York and Syracuse, June 27-30. Sec., Dr. Jacob L. Lochner, Jr., 23 S. Pearl St., Albany.

NORTH CAROLINA: *Written.* Raleigh, June 19-22. *Endorsement.* Raleigh, June 19. Sec., Dr. Ivan Proctor, 226 Hillsboro Street, Raleigh.

NORTH DAKOTA: *Examination.* Grand Forks, July 5-7. *Reciprocity* Grand Forks, July 8. Sec., Dr. C. J. Glaspel, Grafton.

OHIO: *Examination.* Columbus, June 14-17. Sec., Dr. H. M. Platter, 21 W. Broad St., Columbus 15.

OKLAHOMA: * *Examination.* Oklahoma City, June 7-8. Sec., Dr Clinton Gallaher, 813 Braniff Building, Oklahoma City

PENNSYLVANIA: *Examination.* Philadelphia and Pittsburgh, July 11-14. Act. Sec., Mrs. Maxwell G. Steiner, 351 Education Bldg., Harrisburg.

PUERTO RICO: *Examination.* Santurce, Sept. 5. Sec., Mr. Luis Cueto Coll, Box 3717, Santurce.

SOUTH CAROLINA: *Examination.* Columbia, June 26-29. *Reciprocity* First Monday of each month. Sec., Dr. N. B. Heyward, 1329 Blanding Street, Columbia.

SOUTH DAKOTA: * Sioux Falls, July 18-19. Sec., Dr. C. E. Sherwood, 300 First National Bank Bldg., Sioux Falls.

TEXAS: * *Examination.* Austin, June 19-21. Sec., Dr. M. H. Crabb, 1714 Medical Arts Bldg., Fort Worth 2.

UTAH: *Examination.* Salt Lake City, June. Dir., Dr. Frank E. Lees, 324 State Capitol Building, Salt Lake City

VERMONT: *Examination.* Burlington, June. Sec., Dr. F. J. Lawliss, Richford.

VIRGINIA: *Examination.* Richmond, June 23-24. *Endorsement.* Richmond, June 22. Sec., Dr. K. D. Graves, 631 First St., S.W., Roanoke

WEST VIRGINIA: *Examination.* Charleston, July 10-12. Sec., Dr. N. H. Dyer, Capitol Bldg., Charleston .

WISCONSIN: * Milwaukee, July 11-13. Sec., Dr. C. A. Dawson, River Falls.

WYOMING: *Examination.* Cheyenne, June 5. Sec., Dr. Franklin D Yoder, Capitol Bldg., Cheyenne.

* Basic Science Certificate required.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: *Examination.* Juneau, last week in August. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

ARIZONA: *Examination.* Tucson, June 20. Sec., Mr. Francis A. Roy, Science Hall, University of Arizona, Tucson.

CONNECTICUT. *Examination.* New Haven, June 10. Exec. Asst., State Board of Healing Arts, M. G. Reynolds, 110 Whitney Ave., New Haven.

FLORIDA: *Examination.* Gainesville, June 3. Sec., Mr. M. W. Emmel, University of Florida, Gainesville.

OREGON: Portland, June 17. Sec., Dr. C. D. Byrne, University of Oregon, Eugene.

SOUTH DAKOTA: Vermillion, June 2-3. Sec., Dr. Gregg M. Evans, 310 E. 13th Street, Yankton.

WISCONSIN: Milwaukee, June 3, Madison, Sept. 30. Sec., Mr. W. H. Barber, Scott and Watson Sts., Ripon.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in Continental United States and Canada for a period of five days. Three journals may be borrowed at a time. Periodicals are available from 1939 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied with stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American J. Obstetrics and Gynecology, St. Louis

59:1041-1246 (Dec.) 1949

Absorption of Radiopaque Substances Used in Hysterosalpingography: Comparative Study of Various Aqueous and Oily Media. W. E. Brown, A. G. Jennings and J. T. Bradbury.—p. 1041.
*Follow-Up Study of 243 Cases of Eclampsia for an Average of Twelve Years. C. I. Bryans Jr. and R. Torpin.—p. 1054.
Difficult Genital Fistula; Temporary Descensus Uteri for Relief of Tension. G. A. Williams.—p. 1066.
Use of Pyridoxine and Suprarenal Cortex Combined in Treatment of Nausea and Vomiting of Pregnancy. C. W. Dorsey.—p. 1073.
Continuous Caudal Analgesia in Obstetrics: Experience in 841 Cases in Private Practice. A. J. Kelley.—p. 1079.
*Continuous Spinal Anesthesia in Treatment of Severe Pre-Eclampsia and Eclampsia: Preliminary Report of Study of 24 Cases. P. J. McElrath, H. H. Ware Jr., W. C. Winn and E. C. Schelin.—p. 1084.
Prolonged Labor. W. Z. Bradford, J. H. E. Woltz and W. B. Bradford.—p. 1093.
Uterine Muscle Physiology from Laboratory to Bedside, Treacherous Crossing. W. Bickers and M. Woods.—p. 1099.
Simplified Gynecologic Care. W. F. Mengert and R. L. Hermes. —p. 1109.
Late Ligation of Umbilical Cord. M. P. Rucker.—p. 1117.
Trends in Use of Cesarean Section Operation. D. A. D'Esopo.—p. 1123.
Histogenesis of Uterine Myomas. O. H. Schwarz and S. Wissner. —p. 1133.
Female Bladder and Urethra Before and After Correction for Stress Incontinence. A. A. Marchetti.—p. 1145.
Ligation of Vena Cava and Ovarian Vessels: Follow-Up Study of 59 Cases. C. G. Collins, E. W. Melwin, C. T. Ray and others. —p. 1155.
Induced Menstruation for Metrorrhagia and Amenorrhea. L. A. Gray. —p. 1169.
Studies on Preventive and Curative Treatments for Rh Sensitization. L. J. Unger.—p. 1186.
Placenta Accreta Complicated by Hemoperitoneum. M. DeW. Pettit and N. Mitchell.—p. 1201.
Vaginal Smear. "Precancer" Cell Studies Using Modified Technique. J. E. Ayre.—p. 1205.

Follow-Up of Eclampsia Cases.—Bryans and Torpin summarize data on 243 patients with eclampsia, who were followed for an average of more than twelve years. There were 565 subsequent pregnancies in 188 women, of which 22.9 per cent resulted in either stillbirth or abortion. At least 203 of these pregnancies in 106 women were complicated by toxemia, an incidence of 36.1 per cent. Fifty-six and four tenths per cent of the patients have had at least one toxemic pregnancy. This is four to six times the general rate of occurrence. Eclampsia recurred 27 times. One woman had two subsequent attacks. The incidence of repeated eclampsia was 4.8 per cent, or from 7 to 32 times greater than the usual rate of occurrence as reported by various authorities. Of the 27 women who died during the period of eclampsia, 4 died of eclampsia, 5 of cardiovascular disease and 4 of chronic glomerulonephritis. Eclampsia is a specific disease of pregnant women. It is not a manifestation of chronic nephritis or of hypertensive cardiovascular disease, although either of these conditions may precede the attack of eclampsia and possibly render the patient more susceptible to toxemia. Neither does eclampsia nor nonconvulsive toxemia cause chronic nephritis or hypertensive cardiovascular disease. Patients who have once had eclampsia or preeclampsia are more likely to have subsequent toxemia and a high incidence of stillbirths and abortions. This is not because of some constitutional weakness or morbid influence, as Young suggested, not because they have essential hypertension, as Dieckmann states, nor is it because the first attack leaves them more susceptible; rather, it is because the same etiologic factors, such as environment and diet, are likely to remain more or less constant and to provoke the same results in subsequent pregnancies.

Continuous Spinal Anesthesia in Treatment of Eclampsia.—McElrath and his associates used a continuous spinal anesthesia in the treatment of eclampsia and preeclampsia of 24 patients. Twelve of these had severe preeclampsia and 12 had eclampsia with convulsions. The patient with severe toxemia of pregnancy was placed as soon as possible after admission in a quiet, darkened room. A continuous spinal anesthesia was started in cases of severe preeclampsia or eclampsia. An initial dose of 0.5 cc. of 1.5 per cent piperocaine hydrochloride solution (7.5 mg.) was injected. The blood pressure was recorded after five minutes and again after ten minutes. The blood pressure should be obtained every fifteen minutes. Subsequent injections were given at fifteen or thirty minute intervals. The authors never give more than 1 cc. unless the patient is ready for delivery. A venipuncture was done and blood drawn for the determination of blood sugar, nonprotein nitrogen, uric acid, carbon dioxide-combining power, total and fractional proteins, Rh type and for the cross matching of blood. The venipuncture needle was then strapped in place, and the following solutions were administered through this needle: 400 cc. of a 10 per cent dextrose solution in distilled water, 80 cc. of sodium lactate solution and 1.2 mg. of digitoxin. A similar volume of dextrose was given every four hours until the patient could take the necessary amount by mouth. For a patient with anuria or oliguria the volume of intravenous fluids was limited to 250 cc. every four hours. If the carbon dioxide-combining power was below normal, additional sodium lactate was added to the subsequent solution of dextrose for injection. The patient should receive a maintenance dose of digitoxin (0.2 mg.) daily. Special attention was given to the level of the anesthesia by testing the area of skin anesthesia. When the patient was ready for delivery, additional anesthesia was obtained by injecting 2 cc. of piperocaine hydrochloride solution, after placing the woman in a sitting position, which was maintained for thirty minutes. The level of anesthesia was then usually adequate for delivery. There were no deaths in these 24 women, and only 4 convulsions occurred after the treatment was introduced. No complications incident to the use of spinal anesthesia were encountered in these 24 patients.

American Journal of Pathology, Ann Arbor, Mich.

26:1-176 (Jan.) 1950

Peliosis Hepatis. F. G. Zak.—p. 1.
New Features of Inclusion Disease of Infancy. W. A. Worth Jr. and H. L. Howard.—p. 17.
Chronic Pancreatitis and Lithiasis: II. Pathology and Pathogenesis of Pancreatic Lithiasis. H. A. Edmondson, W. K. Bulloch and J. W. Mehl.—p. 37.
Prolapsy of Redundant Gastric Mucosa Through Pyloric Canal into Duodenum. I. H. Manning Jr. and J. U. Gonter.—p. 57.
Lymphoid Tissue and Its Relation to So-Called Normal Lymphoid Foci and to Lymphomatosis: II. Quantitative Analysis of Lymphoid Areas in Pancreas of Laboratory and Farm Chickens. A. M. Lucas and E. F. Oakberg.—p. 75.
Skeletal Growth and Articular Changes in Mice Receiving High-Fat Diet. R. Silberberg and M. Silberberg.—p. 113.
Inclusion Encephalitis with Clinicopathologic Report of 3 Cases. N. Malamud, W. Haymaker and R. Pinkerton.—p. 133.
Disseminated Arteriolar and Capillary Platelet Thrombosis: Morphologic Study of Its Histogenesis. I. Gore.—p. 155.

American Journal of Public Health, New York

40:1-118 (Jan.) 1950. Partial Index

Changes in Mortality Statistics Through Use of New International Statistical Classification. C. L. Erhardt and L. Weiner.—p. 6.
Standardized Rate for Mortality Defined in Units of Lost Years of Life. W. Haenszel.—p. 17.
Environmental Health and Aging Population. M. A. Pond.—p. 27.
Justification of Expenditures for Local Public Health Services: Brief Discussion of Criteria for Appraisal of Local Health Department Management and Community Fiscal Ability. F. Mayes.—p. 34.
Prematurity as Public Health Problem: Administration of Municipal Public Health Program for Care of Premature Infants. H. M. Wallace, M. A. Looty and S. M. Wishik.—p. 41.
Joint Planning by American Academy of Pediatrics and American Public Health Association for Development of School Health Services. T. E. Shaffer.—p. 63.

Am. J. Syphilis, Gonorrhea and Ven. Dis., St. Louis

34:1-100 (Jan.) 1950. Partial Index

Hyaluronidase and Experimental Syphilis: I. Length of Incubation Periods in Experimental Primary Syphilis With and Without Hyaluronidase. V. Scott and C. Droegemueller.—p. 1.
Id.: II. Attempted Localization of Lesions in Syphilitic Rabbits by Intradermal and by Intracorneal Injections of Hyaluronidase: Negative Report. V. Scott.—p. 12.
Effect of Method of Inoculation upon Course of Experimental Syphilis in Rabbit. A. M. Chesney and G. J. Schipper.—p. 18.
Electron Microscope Studies of Treponemas: II. Effect of Penicillin on Nichols Strain of Treponema Pallidum. H. E. Morton and J. Oskay.—p. 34.
Revised Criteria of Cure in Gonorrhea. A. Jacoby and T. Rosenthal.—p. 57.
Treatment of Gonorrhea with Oral Penicillin. A. Jacoby and A. H. Ollwang.—p. 60.
Use of Dihydrostreptomycin in Treatment of Gonorrhea. S. R. Taggart, D. E. Putnam, A. B. Greaves and J. A. Watson.—p. 62.
Aureomycin in Treatment of Gonorrhea in the Male. R. C. V. Robinson.—p. 64.
Treatment of Lymphogranuloma Venereum with Aureomycin. R. C. V. Robinson, H. E. C. Zheutlin and E. R. Trice.—p. 67.
Aureomycin in Treatment of Chancroid: Report of 3 Cases. H. E. C. Zheutlin and R. C. V. Robinson.—p. 71.
Seropositivity in Patients Previously Treated for Syphilis. Differentiation Between Seroresistance and "Treatment Failure." I. L. Schamberg.—p. 73.
*Fatal Herxheimer Reaction Following Penicillin Therapy: Report of Case of Syphilitic Pachyleptomeningitis. B. Shaffer and H. A. Shenkin.—p. 78.
Donovanosis—Granuloma Inguinale: Incidence, Nomenclature and Diagnosis. M. Marmell and E. Santora.—p. 83.

Fatal Herxheimer Reaction Following Use of Penicillin in Syphilitic Pachyleptomeningitis.—Shaffer and Shenkin report a woman, aged 34, who presented symptoms of cord tumor and syphilitic meningovascular disease. A laminectomy involving the second, third, fourth and fifth thoracic vertebrae was performed with the patient under endotracheal ether anesthesia. A thickened dura and a thickened and adherent arachnoid were incised. Since these findings substantiated the diagnosis of syphilis rather than tumor, a small excision of the dura arachnoid for biopsy, followed by closure of the wound, completed the operation. Treatment with penicillin was begun by administering 1,000 units every three hours. A severe febrile reaction with exaggeration of symptoms developed during the treatment, and the woman died ten days later. The evidence for a fatal Herxheimer reaction appeared fairly conclusive. It included a sudden, rapid, severe febrile response and an exaggeration of the patient's signs and symptoms within a few hours after the institution of the penicillin therapy. The postoperative spinal fluid observations and the autopsy demonstrated that the activation of the patient's symptoms was not due to operative intervention or to secondary pyogenic infection. The histologic observations were characteristic of syphilis and were compatible with a Herxheimer reaction as being an acute activation of a syphilitic process. The extensive destructive changes in the central nervous system resulting from the Herxheimer reaction included focal hemorrhages, focal necroses and an acute inflammatory reaction.

Annals of Western Medicine & Surgery, Los Angeles

3:407-442 (Dec.) 1949

Surgical Treatment of Dyskinesias. T. J. Putnam.—p. 407.
Selection of Therapy for Carcinoma of Cervix. R. E. Fricke.—p. 410.
Miliary Coccidioidomycosis of Lungs: Report of Case in Child. R. Cohen and R. Burnip.—p. 413.
Management of Postoperative Renal Suppression. M. M. Mayers.—p. 415.
*Traumatic Chylothorax with Report of Case. J. Goorwitch and A. Ettleson.—p. 420.
Stuck Joint Syndrome in Cervical Spine. T. Stonehill.—p. 424.
Thyroid Feeding Fifty Years Ago and Today. E. C. Hamblen.—p. 427.

Traumatic Chylothorax.—Goorwitch and Ettleson report a patient who had undergone a bilateral Smithwick operation for essential hypertension. They emphasize (1) the long interval from the date of left sympathectomy to the date when roentgenologic evidence of chylothorax on the left was first noted, (2) a short-lived but complete disappearance of eosinophils and reduction of lymphocytes in the peripheral blood to 4 per cent and (3) the spontaneous sealing off of the defect in the chyle channel without surgical intervention. All these features indicate either slight damage to the thoracic duct or a complete division of a smaller chyle channel. After injury to a chyle channel, chyle accumulates in the mediastinum extrapleurally. Only after this collection of chyle finds its way into the pleural cavity can chylothorax be diagnosed roentgenologically. In this patient this required thirty-four days. The patient died sometime later as the result of an acute vascular accident. The authors point out that of the 62 cases of traumatic chylothorax recorded in the literature, only 6 were due to surgical injury. Of these 6, 4 were caused by sympathectomies, 1 an intrapleural pneumonolysis and the other a resection of Ewing's tumor of the right tenth rib. In a recent article Baldridge and Lewis mentioned several unpublished instances of traumatic chylothorax following esophagectomies and sympathectomies. Smithwick states that he had accidentally injured the thoracic duct fifteen to twenty times but that only one of these injuries resulted in chylothorax because the others were recognized and repaired promptly. It may be assumed on the basis of such reports that traumatic chylothorax due to surgical accidents is more common in these days of frequent surgical procedures in and near the mediastinum than it would appear from a review of the literature.

Blood, New York

4:1281-1382 (Dec.) 1949

Prothrombin Consumption Test: Its Clinical and Theoretic Implications. A. J. Quick and J. E. Favre-Gilly.—p. 1281.
Chain Reaction of Blood Clotting Mechanism in Relation to Theory of Hemostasis and Thrombosis. J. H. Milstone.—p. 1290.
Hypoprothrombinemia: Studies of Case of Idiopathic Type and Effect of Serum Administration. C. L. Crockett Jr., D. Shorten, C. G. Craddock Jr. and B. S. Leavell.—p. 1298.
Effect of Artificial Surfaces on Blood Coagulability, with Special Reference to Polyethylene. T. J. Donovan and B. Zimmermann.—p. 1310.
Role of Staphylocoagulase in Blood Coagulation: II. Coagulation in Absence of Calcium and in Presence of Fluorides, Heparin and Azo Dyes. J. B. Miale.—p. 1317.
Determination of Level of Leukocytes in Blood Stream with Inflammation, Thermostable Component Concerned in Mechanism of Leukocytosis. V. Menkin.—p. 1323.
Experimental Thoracic Duct Fistula: Observations on Lymphocyte Output. W. W. L. Glenn, F. X. Bauer and S. L. Cresson.—p. 1338.
Effects of Roentgen Rays on Inflammatory Cells of Mouse and Rabbit. W. A. Townsend and B. Campbell.—p. 1346.
Preliminary Study of Relationship Between Lactobacillus Lactus Dorner Response and Clinical Anti-Pernicious Anemia Activity of Liver Extracts. W. F. White, J. R. Mote and E. E. Hays.—p. 1357.
Pernicious Anemia in Childhood: Report of Case in Six Year Old Girl Responding to Refined Liver Extract, Folic Acid and Vitamin B12 in Successive Relapses. R. W. Davis, R. M. Christian, D. M. Ervin and L. E. Young.—p. 1361.
Tuberculous Splenomegaly with Hypersplenism Syndrome: Case Report. H. C. Meredith Jr., J. Q. Early and W. Becker.—p. 1367.

Cancer Research, Chicago

9:701-776 (Dec.) 1949

Studies with Radioactive Carbon-Labeled Acetate on Cholesterol Metabolism in Rats Fed p-Dimethylaminoazobenzene. C. G. Baker and D. M. Greenberg.—p. 701.
Cancer Innervation. D. M. Shapiro and S. Warren.—p. 707.
*Tissue Transplant Technic as Means of Testing Materials for Carcinogenic Action. W. E. Smith.—p. 712.
Influence of Degree of Caloric Restriction on Formation of Skin Tumors and Hepatomas in Mice. A. Tannenbaum and H. Silverstone.—p. 724.
Heterologous Transplantation of Brown-Pearce Tumor. H. S. N. Greene.—p. 728.
Action of Oxazine Dyes on Tumors in Mice. M. R. Lewis, P. P. Goland and H. A. Shoviter.—p. 736.
Stimulating Effect of Dietary Fat on Carcinogenesis. R. K. Boutwell, M. K. Brush and H. P. Rusch.—p. 741.
Influence of Vitamins of B Complex on Induction of Epithelial Tumors in Mice. R. K. Boutwell, M. K. Brush and H. P. Rusch.—p. 747.
Binding of Phenolsulfonephthalein by Serum and by Albumin Isolated from Serum in Cancer. C. Huggins, E. V. Jensen, M. A. Player and V. D. Hospelhorn.—p. 753.

Tissue Transplant in Testing Materials for Carcinogenic Action.—According to Smith recent experimentation has demonstrated that carcinomas and benign and malignant papillomas develop from epithelial tissues transplanted from mouse embryos into adult animals along with methylcholanthrene dissolved in olive oil. The original experiments were undertaken to determine whether the epithelial tissues of embryos possess the potentiality to become cancerous or whether this potentiality is acquired later in life. When the fact emerged that epithelial tumors appear quickly and regularly from tissue transplants, the question arose whether this method could be employed as a means of testing chemical compounds

for carcinogenic action on selected tissues. The experiments here reported were designed to provide information on this point by tests with several carcinogens in addition to methylcholanthrene. The tissues are taken from the mouse embryos, removed near term under aseptic precautions and killed by cutting off their heads. The desired embryo tissue or organ is minced in Locke's solution, and for each implantation 0.05 cc. of this tissue suspension is drawn into a syringe, then 0.05 cc. of the carcinogen solution is drawn up into the same syringe and injected into the posterior thigh muscles of adult mice through skin incisions made over the calf muscle. The skin incision must be pinched together with the fingers over the needle during and for a few seconds after injection to prevent backflow and escape of oil employed as the solvent. Tissue transplant technic affords a convenient means for assaying carcinogens directly against a variety of epithelial tissues. The sensitivity of the test can be increased by addition of scarlet red to solutions containing the carcinogen to insure incorporation of the carcinogen into the cysts formed by the implanted epithelium, and by addition of croton oil to increase the responsiveness of the tissue. The pure substance, tricaprylin, can be used to replace olive oil as a solvent for this work.

Circulation, New York

1:1-160 (Jan.) 1950

Blood Coagulation and Practical Significance of Recent Advances in Knowledge of Prothrombin and Ac-Globulin. W. H. Seegers.—p. 2.
Experimental Production of Intercoronary Arterial Anastomoses and Their Functional Significance. H. L. Blumgart, P. M. Zoll, A. S. Freedberg and D. R. Gilligan.—p. 10.
*Paroxysmal Ventricular Tachycardia: Study of 107 Cases. C. A. Armbrust Jr. and S. A. Levine.—p. 28.
*Coarctation of Aorta: Surgical Treatment of 100 Cases. R. E. Gross. —p. 41.
Effect of Changes in Posture on Peripheral Circulation, with Special Reference to Skin Temperature Readings and Plethysmogram. R. H. Goetz.—p. 56.
Determination of Blood Volume in Heart and Lungs and Cardiac Output Through Injection of Radiophosphorus. G. Nylin and H. Celander. —p. 76.
Electric Field of Eccentric Dipole in Homogenous Spherical Conducting Medium. F. N. Wilson and R. H. Bayley.—p. 84.
Atrophy of Heart: Correlative Study of 85 Proved Cases. H. K. Hellerstein and D. Santiago-Stevenson.—p. 93.
Failure of Histidine and Vitamin C, and of Ether, to Improve the Peripheral Circulation: Report of Studies on Subjects with Normal Arterial Circulation and with Occlusive Arterial Diseases. S. J. Weisman and E. V. Allen.—p. 127.
Ballistocardiographic Findings in Patients with Symptoms of Angina Pectoris. H. R. Brown Jr., M. J. Hoffman and V. de Lalla Jr. —p. 132.

Paroxysmal Ventricular Tachycardia.—Armbrust and Levine reviewed 107 cases of paroxysmal tachycardia which were observed between 1915 and 1948 at the Peter Bent Brigham Hospital of Boston and in the private practice of one of the authors. The ages of the patients varied between 13 and 83, but the majority were between 50 and 70 years. The diagnosis can often be suspected by bedside examination but is better confirmed by electrocardiographic studies. On clinical examination an occasional case may be overlooked because only one heart sound may be present to each cardiac cycle so that the physician estimates the rate at one-half of its actual value. The underlying cause of the heart disease in 79 patients was coronary artery disease, generally with recent or old myocardial infarction. Nine patients had rheumatic heart disease, 13 no heart disease and 6 miscellaneous conditions. There were 27 patients who had recurrences of prolonged attacks over the course of months or years. The duration of the prolonged attacks varied from hours to twenty-four days. Digitalis played a role in the precipitation of paroxysmal ventricular tachycardia in only a small number of instances. An attack of tachycardia may be symptomless but is frequently accompanied with substernal pain, sudden collapse, shock, dyspnea or syncope. The immediate prognosis of the attack of tachycardia is good. In all but a few subjects normal rhythm was resumed following appropriate therapy. The ultimate prognosis is grave in those who have underlying coronary or valvular disease. A fair number of these were able to carry on their occupation for years. The prognosis is generally excellent in subjects without organic heart disease, but the threat of sudden death is present. Death during a paroxysm occurred in 1 patient who had a structurally normal heart post mortem. Magnesium sulfate administered intravenously was occasionally of value, potassium salts given orally were of no value in the few instances in which they were employed, and morphine given intravenously failed on the one occasion that it was tried. The drug of choice was quinidine sulfate. The oral administration was successful in 46 of 57 episodes. The intravenous route, used in the more desperate cases, was successful in 20 of 31 attacks. The intelligent use of quinidine was of great value and not infrequently was life saving.

Coarctation of Aorta.—Gross says that coarctation of the aorta can be diagnosed or at least suspected by the intelligent use of the finger tips, a stethoscope and a sphygmomanometer. Of greatest importance in detecting an aortic block is the disparity of blood pressures in the arms and legs. Normally, the systolic level in the legs is 20 to 40 mm. of mercury higher than that in the arms; in the presence of an aortic block the leg pressures are far below those of the arms. If femoral pulsations are reduced in intensity, the pressures in the popliteal artery should be checked with a sphygmomanometer. Electrocardiographic tracings are an important part of the examination, and roentgenographic studies are helpful. The prognosis varies. The condition may be tolerated through a long life with little incapacitation or may be accompanied with early and serious complications in the form of cardiac failure, aortic rupture or intracranial hemorrhage. In a high percentage of patients it is possible to remove the aortic block and establish a pathway of satisfactory size. The author has operated on 100 patients with coarctation. Nine of these had only thoracic exploration; the observations in the chest were such that it seemed too risky to attempt removal of the aortic stricture. There were 11 fatalities from various causes. Seven of these deaths would now be regarded as avoidable by changes in operative technics which have currently been adopted and by refusal to operate in certain complicated types of cases in which the risk is exceedingly high. It is reasonable to expect that the surgical mortality rate can be reduced to 5 or 6 per cent. Of the 80 patients who survived operation, one had no relief of hypertension, 8 had fairly satisfactory relief and 71 had complete disappearance of hypertension. Surgical therapy for coarctation appears to be on a sound basis and has a great deal to offer most persons who are afflicted with this abnormality.

Gastroenterology, Baltimore

13:493-642 (Dec.) 1949

Studies on Adrenal Cortical Function in Cancer: Acute Effects of Adrenocorticotrophic Hormone in Patients with Gastric Cancer. E. C. Reifenstein Jr., B. J. Duffy Jr. and M. S. Grossman.—p. 493.
Uptake of Radioactive Phosphorus by Gastric Carcinoma in Human. S. J. Gray, J. Schulman Jr. and M. Falkenheim.—p. 501.
Absorption of Barium Sulfate and Non-Absorption of Zirconium Dioxide from Gastrointestinal Tract. L. A. Crandall Jr.—p. 513.
Observations on Patient with Pancreatic Fistula. E. A. Newman and M. Eisenstein.—p. 528.
*Effect of Vagotomy on Human Colon. W. J. Grace, C. W. Hobman, S. Wolf and H. G. Wolff.—p. 536.
Studies in Ulcerative Colitis: I. Study of Personality in Relation to Ulcerative Colitis. V. P. Mahoney, H. L. Bockus, M. Ingram, J. W. Hundley and J. C. Yaskin.—p. 547.
Use of Dibenamine in Anxiety States with Gastrointestinal Manifestations. A. J. Sullivan.—p. 564.
Method for Quantitative Determination of Gastric Secretory Inhibition. C. F. Code, C. M. Blackburn, G. R. Livermore Jr. and H. V. Rathe. —p. 573.
Gradual Evolution of Acute Infectious (Epidemic) Hepatitis into Post-Hepatic Cirrhosis: Case Report. J. I. Baltz, H. H. Steele and F. W. Hartman.—p. 589.
Case Report: Aberrant Pancreatic Tissue in Stomach Wall. M. C. Wheelock, A. J. Atkinson and H. A. Tekoh.—p. 594.
Tetany from Small Bowel Resection and Small and Large Bowel Exclusion. L. D. Mayer and L. H. Criep.—p. 597.

Effect of Vagotomy on Human Colon.—Vagotomy was introduced in 1947 by Dennis and Eddy as a therapeutic procedure for ulcerative colitis. The anatomic basis for this procedure is not clear, since it is not certain that fibers of the vagus nerve reach the ascending colon. An unusual opportunity to study the function of the human colon before and after vagotomy was afforded Grace and associates in the person of a fistulous subject with a large area of evaginated colonic mucosa. He was observed before and after bilateral supra-

diaphragmatic vagotomy, performed as a therapeutic procedure for ulcerative colitis. The patient was a mechanic 26 years of age who had had ulcerative colitis for six years. Therapeutic cecostomy had been performed two years after the onset, but because of extension of the process an ileostomy was required two years later. The cecostomy closed spontaneously, but shortly thereafter a cecal fistula developed, through which a loop of ascending colon and cecum prolapsed onto the surface of the abdomen. A small section of ileum was also included in this isolated loop of exposed bowel. From a direct study of the colonic mucous membrane and measurements of contractile activity, mucus and lysozyme secretion before and after vagotomy, there was no evidence that vagotomy altered the behavior of the colon or protected it from acute exacerbations of chronic ulcerative colitis.

International J. of Leprosy, New Orleans

17:181-366 (July-Sept.) 1949. Partial Index

Chemotherapy of Leprosy in Nigeria with Appendix on Glandular Fever and Exfoliative Dermatitis Precipitated by Sulfones. J. Lowe and M. Smith.—p. 181.
Treatment of Lepromatous Leprosy with 4: 4'-Diaminodiphenyl Sulfone in Oil: Findings in 100 Cases Treated for One Year. B. D. Molesworth and P. S. Narayanaswami.—p. 197.
Treatment of Lepra Reaction and Acute Neuritis and Arthritis with Nerve Block and Intravenous Administration of Procaine: Preliminary Report. J. S. Horan.—p. 211.
Surgical Treatment of Primary Lesion of Leprosy. R. Boenjamin.—p. 217.
*Infectivity of Neural Leprosy. A. R. Davison.—p. 247.
South African Leprosy Laws and Control Policy. P. D. Winter.—p. 253.

Infectivity of Neural Leprosy.—Davison says that most countries in which leprosy legislation has been found necessary have divided their control measures into two sections: that concerned with open, or bacillus-discharging, cases, and that concerned with closed, or bacillus-negative, cases. All lepromatous cases fall in the first group, and most neural cases in the second one. Although it has been demonstrated that neural leprosy is much less infective than lepromatous leprosy, the author warns that this should not be interpreted that neural leprosy offers no public health problem. He refutes this argument on the following grounds: (1) Neural leprosy is caused by Mycobacterium leprae in the skin as well as in the nerves; (2) neural cases of leprosy sometimes discharge M. leprae; (3) patients with neural leprosy have infected others, and (4) endemic leprosy can become epidemic. He cites corroborating evidence for these points and analyzes data on 157 patients with neural leprosy admitted in 1940 to the Westfort Institution in Pretoria, Union of South Africa. Since no less than 38 of these 157 patients with neural leprosy have shown positive smears, it appears that a great many more would have become dangerous to the public health if they had not been segregated and treated. Twenty-two of these 38 patients with neural infections had become lepromatous. To prove that endemic leprosy can assume epidemic proportion, the author cites the case of the island of Nauru. In 1920 there were 3 known cases in a population of about 2,600; in that year there was an influenza epidemic; four years later 30 per cent of the population showed signs of leprosy.

Journal of Neurophysiology, Springfield, Ill.

12:363-494 (Nov.) 1949. Partial Index

Electronarcosis: I. Inhibition of Electrical Activity of Cerebellum. T. Gualtierotti, E. Martini and A. Marzorati.—p. 363.
Production of Postural Tremor. K. W. Peterson, H. W. Magoun, W. S. McCulloch and D. B. Lindsley.—p. 371.
Autonomic Effects on Stimulating Rostral Portion of Cingulate Gyri in Man. J. L. Pool and J. Ransohoff.—p. 385.
Electric Potentials Generated by Antidromic Volleys in Quadriceps and Hamstring Motoneurones. T. H. Barakan, C. B. B. Downman and J. C. Eccles.—p. 393.
Proprioceptive Modification of Reflex Patterns. G. N. Looftbourrow and E. Gellhorn.—p. 435.
Excitability of Cortical Afferent Systems During Barbiturate Anesthesia. L. W. Jarcho.—p. 447.
Physiological Studies on Mechanisms of Color Reception in Normal and Color-Blind Subjects. K. Motokawa.—p. 465.
Physiological Induction in Human Retina as Basis of Color and Brightness Contrast. K. Motokawa.—p. 475.

Journal of Urology, Baltimore

62:799-912 (Dec.) 1949. Partial Index

Present Organization of American Urological Association. C. C. Higgins.—p. 799.
*Prognosis After Nephrectomy for Renal Tuberculosis. G. D. Oppenheimer and L. Narins.—p. 804.
Clinical Management of Cyst in Lithiasis. L. D. Keyser and C. D. Smith.—p. 807.
Neurogenic Disease of Bladder: Surgical Management of Its Complications. J. H. Semans.—p. 820.
Induction of Transplantable Bladder Carcinoma in Inbred Strains of Mice. B. Hughes.—p. 833.
Extraskeletal Bone Formation Following Suprapubic Prostatectomy: Case Report. W. S. Sewell, J. G. Sierhuff and J. D. Horton.—p. 842.
Leukemic Infiltration of Prostate. D. M. Hare, H. M. Spence and F. Fuqua.—p. 845.
Blood Loss in Prostatectomy. W. E. Goodyear and D. E. Beard.—p. 849.
Perineal Testicle. C. A. Wattenberg, M. G. Rape and J. B. Beare.—p. 858.
*Results Obtained in Treating Genito-Urinary Tuberculosis with Streptomycin. T. R. Huffines and W. D. Weber.—p. 862.
*Treatment of Genito-Urinary Tuberculosis with Streptomycin Alone. J. K. Lattimer, J. B. Amberson and S. Braham.—p. 875.

Nephrectomy for Renal Tuberculosis.—Oppenheimer and Narins believe that use of streptomycin in the treatment of genitourinary tuberculosis may change the present concept as to what constitutes "surgical" renal tuberculosis. Some investigators hold that surgical intervention is indicated when renal tuberculosis is evidenced by unilateral pyelographic changes and positive smears for tubercle bacilli. When pyelographic changes are not present but smears are positive the use of streptomycin without surgery is justified. Others believe that all patients with urinary tuberculosis should be treated with streptomycin and that nephrectomy can be relegated to a position below that of streptomycin and rest. Of the 117 patients (71 males and 46 females) reported by Oppenheimer and Narins, 106 were nephrectomized for unilateral renal tuberculosis and 11 were not treated surgically either because of demonstrable bilateral renal tuberculosis or active extrarenal infection. Of the 106 surgically treated patients, 2 died postoperatively and 8 were lost to follow-up, leaving 96 that have been followed. Subsequently, in 15 of the operative cases genital or osseous tuberculosis developed, and in 17 cases contralateral renal involvement developed. There were also 17 cases of residual tuberculous cystitis. The average length of survival of the patients in whom genital or osseous tuberculosis developed postoperatively was 7.3 years; of those with contralateral involvement, 6.2 years, and of those with residual tuberculous cystitis, 8.6 years. The authors are of the opinion that nephrectomy for unilateral renal tuberculosis affords the patient a better than even chance for a five to ten year survival, the survival rate being 57.3 per cent. Until results in a long-followed series of patients treated solely with streptomycin can be shown to compare favorably with those in surgically treated cases, nephrectomy must be regarded as a reliable method for unilateral renal tuberculosis.

Treatment of Genitourinary Tuberculosis with Streptomycin.—Huffines and Weber say that in their experience with streptomycin therapy in 59 cases of genitourinary tuberculosis they have been able to bring about at least temporary arrest of the process with obvious immediate benefit in 82 per cent of the patients. In those in whom no definite change resulted from this therapy, they have at least noted a palliative effect. The appearance of the cannulized tracts, notably the ureters, has paralleled that of ulcerative lesions of the air passages, which regularly respond well to streptomycin therapy. They were able to perform surgical procedures with the aid of streptomycin in patients who would have been abandoned surgically because of the complications which would have been certain to arise and for which there would have been no remedy without streptomycin. The tubercle bacillus tends to show resistance to streptomycin on the forty-fifth day of therapy. With this in mind, it was decided to reduce the duration of the period of streptomycin treatment to forty-two days instead of one hundred and twenty days. The authors believe that the only acceptable statistics today are those of the Veterans Administration. For several years the Veterans Administration has followed a rigid protocol, and it is only by adherence to this protocol, modified from time to time, that any worthwhile data can be compiled.

Streptomycin Alone in Genitourinary Tuberculosis.—Two hundred and fifty-three cases of genitourinary tuberculosis have now been treated with streptomycin by the Veterans Administration, Army and Navy Research Group. Lattimer and his associates stated that the most effective dosage regimen against active ulcerating renal lesions, when streptomycin alone was used, was 0.3 Gm. every four hours day and night for one hundred and twenty days. As the dosage or time of treatment were lessened, the effectiveness decreased. Forty-two day regimens were inadequate. Large renal lesions responded poorly. Most patients with renal tuberculosis were not discovered until their lesions were large enough to be visible in the pyelogram. Any lesion which was visible in the pyelogram probably contained necrotic and fibrous tissue and was classified as a large renal lesion. In this group of patients tubercle bacilli disappeared from the urine in only 25 per cent of the cases, although in many additional instances the progress of the disease was apparently slowed or halted. Surgical treatment was preferred for such renal lesions if the active disease was unilateral. Small renal lesions responded well. The rare tuberculous renal lesion which was discovered by examining the ureteral urine before there was a visible pyelographic lesion probably contained less necrotic and fibrous tissue. In the pilot series, urine from eight of ten such kidneys became consistently negative. In patients with cystitis and ureteritis, superficial ulcerations and edema responded well to streptomycin treatment. Contracted bladders and strictures due to deep-seated fibrous lesions did not improve. Prostatic and epididymal tuberculosis did not respond sufficiently well to merit the use of streptomycin except when severe cystitis had resulted from local extension of the lesion into the bladder. Epididymal tuberculosis was preferably treated by surgical measures accompanied with three weeks of streptomycin therapy. The development of resistance and the presence of necrotic, caseous or fibrous tissue were the chief limiting factors. If treatment was started early enough the results were excellent. Surgical intervention was preferable to streptomycin therapy for large tuberculous lesions of the kidney or epididymis containing necrotic tissue. A three week course of streptomycin, 0.5 Gm. every twelve hours, was given at the time of any operation on a tuberculous organ. Combined therapy using streptomycin and paraaminosalicylic acid appears promising. Paraaminosalicylic acid is a tuberculostatic agent whose action is similar to that of a sulfonamide drug. It has been widely used in Sweden and other parts of Europe, where the results are said to be about the same as those reported with streptomycin, although not achieved as rapidly. There is evidence that paraaminosalicylic acid may be effective against tubercle bacilli which are resistant to streptomycin.

Michigan State Medical Society Journal, Lansing

48:1425-1566 (Dec.) 1949

Subacute Bacterial Endocarditis. G. E. McKeever and S. G. Meyers. —p. 1437.
Bacterial Endocarditis Caused by Hemolytic Staphylococcus Albus: Treated with Aureomycin. A. W. Allen and H. H. Riecker.—p. 1461.
Common Sense and Heart Disease. F. D. Johnston.—p. 1465.
Employment Problems Faced by Cardiac Patient. J. G. Bielawski. —p. 1468.
Periarteritis Nodosa: Review and 2 Case Reports. W. H. Gordon and L. E. Davison.—p. 1472.
Peripheral Arterial Disease: Recent Advances in Surgical Treatment. G. H. Pratt.—p. 1477.
Sickle-Cell Anemia Complicated by Pregnancy. M. Dale.—p. 1484.
Protective Sterilization in Michigan. C. J. Gamble.—p. 1487.
Diagnosis and Surgical Treatment of Deafness. J. E. Croushore. —p. 1489.

Military Surgeon, Washington, D. C.

106:1-88 (Jan.) 1950. Partial Index

Blood Vessel Bank Under Military Conditions. E. S. Hurwitt.—p. 19.
Medical Department of the Army—Current Status Report. G. E. Armstrong.—p. 30.
Medical Groups (T/O 8-22) of First U. S. Army in European Campaign. J. Beach-Head, Break Through and Pursuit. F. P. Kintz and J. Edgar.—p. 34.
Experiences with Amebiasis in Highly Endemic Area of Tsingtao, China. H. L. Jones Jr.—p. 40.
Simple and Rapid Urine Test for Estimating Severity of Chronic Infection and for Controlling Dosage of Vaccines. A. F. Griffiths and G. H. Chapman.—p. 53.

New England Journal of Medicine, Boston

242:1-38 (Jan. 5) 1950

Two-Year End-Results in Total Rehabilitation of Veterans with Spinal-Cord and Cauda-Equina Injuries. D. Munro.—p. 1.
*Myocardial Infarction Following Administration of Tetanus Antitoxin. J. F. McManus and J. J. Lawlor.—p. 17.
*Value of Enteric-Coated Aspirin. R. H. Talkov, M. W. Ropes and W. Bauer.—p. 19.
Collections of Subdural Fluid Complicating Meningitis Due to Haemophilus Influenzae (Type B): Preliminary Report. R. J. McKay Jr., R. A. Morissette, F. D. Ingraham and D. D. Matson.—p. 20.
Toxicology. J. T. Walker.—p. 22.
Post-Infectious Hepatitis, with Cirrhosis.—p. 26.
Subacute Bacterial Endocarditis of Mitral Valve. Cerebral Embolism and Infarction.—p. 29.

Myocardial Infarction Following Administration of Tetanus Antitoxin.—McManus and Lawlor report the case of a 32 year old truck driver, who, because of a puncture wound of the right foot, was given 1,500 units of tetanus antitoxin subcutaneously after a negative reaction to an intracutaneous test. Several days later serum sickness with signs of generalized urticaria appeared. Two days later severe, persistent substernal pain suddenly developed, for relief of which morphine was given. An electrocardiogram two days after the onset of substernal pain showed a sinus tachycardia and an auriculoventricular block with a PR interval of 0.24 seconds. The QRS and ST-T changes were consistent with a recent posterior wall infarction. Serial tracings showed disappearance of the auriculoventricular block, with evolutionary QRS and ST-T changes that were characteristic of healing posterior wall infarction. The authors feel that the age of the patient and the absence of demonstrable arteriosclerosis, hypertension, syphilis, diabetes or antecedent heart disease suggest that some unusual mechanism produced coronary occlusion and myocardial infarction. The cardiac complication occurred at the height of the cutaneous manifestation of serum sickness, after the administration of tetanus antitoxin. It is believed that the serum sickness resulted in coronary arteritis of the type that has been produced experimentally in rabbits by the injection of horse serum and similar to the morphologic alterations observed in human beings who have received therapeutic injections of horse serum. Evidence has recently been offered that the development of these experimentally produced myocardial lesions in rabbits can be impeded by the administration of antihistaminic drugs. Certain other injected materials, including penicillin, streptomycin, insulin and liver extract, occasionally produced changes in sensitive persons that closely resemble the cutaneous reactions encountered after the injection of horse serum. If the injection of horse serum can lead to the development of myocardial infarction, it may be expected to follow the use of other injected materials.

Enteric-Coated Aspirin (Acetylsalicylic Acid).—Talkov and his associates point out that enteric-coated aspirin (acetylsalicylic acid) has an analgesic effect equal to that of regular acetylsalicylic acid and the onset of its action is only slightly delayed. It is of value in the treatment of patients who are unable to tolerate regular acetylsalicylic acid because of gastric symptoms of local origin. Its use is especially advantageous in such cases when maximal dosage is required to control pain. The use of such a preparation is suggested also for patients with hemorrhagic gastritis due to acetylsalicylic acid and for those with peptic ulcer who require acetylsalicylic acid therapy.

New Jersey Medical Society Journal, Trenton

47:1-46 (Jan.) 1950

Cardiologic Aspects of Certain Rheumatic Diseases. A. D. Dennison Jr. —p. 4.
Newer Therapeutic Agents in Peripheral Vascular Disease. N. Frank. —p. 9.
Bronchial Asthma: Practical Considerations. C. Hyman.—p. 14.
Management of Acne Vulgaris. S. J. Fanburg.—p. 19.
Choice of Suture Material with Suture Statistics in New Jersey. S. Z. Hawkes.—p. 22.
Kopetzky's Concept of Deafness, Tinnitus and Vertigo: Critical Review. H. Z. Goldstein.—p. 27.
Hydrylin for the Common Cold. M. M. Kessler.—p. 29.
Hydatidiform Mole: Report of Unusual Case. P. Grossbard.—p. 30.

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New York State Journal of Medicine, New York

50:1-112 (Jan. 1) 1950

SYMPOSIUM: REHABILITATION

Rehabilitation of the Paraplegic. H. Kessler and A. S. Abramson. —p. 43.
Rehabilitation of Hemiplegic Patient. D. A. Covalt.—p. 48.
Returning the Patient to Normal Activity Following Injury. L. A. Goldstein and R. P. Schwartz.—p. 51.
Diagnostic Value of Urinary Sediment: Review Based on Papanicolaou Method. C. J. Schmidlapp II and V. F. Marshall.—p. 56.
Interstitial Cystitis in the Male. J. E. Heslin and C. Mamounas.—p. 59.
Anson Jones: Doctor and Diplomat. T. W. Clarke.—p. 65.
New Windsor: Eighteenth Century Medical Crossroads. C. B. Reed. —p. 69.
Public Health Problems in New York City During the Nineteenth Century. G. Rosen.—p. 73.
Use and Action of New Antibiotics—Aureomycin, Chloromycetin, and Bacitracin. E. Neter.—p. 79.
Carcinoma of Prostate: Review of 162 Cases with Pathologic Classification. N. C. Foot, G. A. Humphreys and E. C. Costa.—p. 84.
Sigmoidoscopy and Biopsy. R. Turell and B. J. Garson.—p. 89.

North Carolina Medical Journal, Winston-Salem

11:1-48 (Jan.) 1950

Development of Adequate Health Program. J. W. R. Norton.—p. 1.
Review of Mental Health Activities in North Carolina. D. A. Young. —p. 3.
Care of the Tuberculous. H. S. Willis.—p. 5.
Rural Health Councils as Weapon Against Political Medicine. F. C. Hubbard.—p. 6.
Problems of General Practitioner. J. R. Bender.—p. 8.
Present Status of Medical Care Program. W. M. Coppridge.—p. 10.
Place of Public Health in Medical Care Program. E. G. McGavran. —p. 13.
Promoting Mental Health. R. H. Felix.—p. 17.
Problem of Adequate Training for Public Health Personnel to Meet Today's Needs. W. P. Richardson.—p. 24.
"Nursing for the Future": Discussion of Brown Report. R. W. Hay. —p. 28.
Errors of Medical Education and Their Remedy. R. B. Davis.—p. 31.

Postgraduate Medicine, Minneapolis

7:1-84 (Jan.) 1950

*Treatment of Erythroblastosis Fetalis by Exchange Transfusion. A. S. Wiener.—p. 1.
Hearing Aids: Procedures for Testing and Selection. W. G. Hardy. —p. 11.
Surgery of Bile Ducts. J. T. Priestley.—p. 18.
Cytodiagnosis in Gastric Carcinoma. L. I. Platt.—p. 26.
Treatment of Hereditary Cephalalgia. C. M. Charles.—p. 33.
Male Sexual Relationships: Deviation from Normal. C. P. Segard. —p. 36.

Exchange Transfusion for Erythroblastosis Fetalis.—Wiener summarizes experiences in a series of 80 cases of erythroblastosis fetalis treated by exchange transfusion. Of the 80 cases, 76 were typical instances of Rh sensitization and included 2 sets of twins, while 4 were due to A-B sensitization. The mortality was only 15 per cent, in contrast to a mortality rate of 30 to 75 per cent following more conservative treatment. All the babies who survived after exchange transfusion have developed normally both mentally and physically, while neurologic sequelae occur in 10 to 30 per cent of erythroblastotic babies surviving after more conservative treatment. Thus, therapy by exchange transfusion not only saves erythroblastotic babies but also prevents the occurrence of neurologic sequelae. The method of delivery of an erythroblastotic baby has a definite effect on the prognosis. Among 16 babies delivered by cesarean section, as many as 8, or 50 per cent, died, while only 5 out of 66 babies born spontaneously or delivered prematurely by medical induction died. Thus, if cesarean section is avoided, the mortality of the disease in erythroblastotic babies born alive and treated by exchange transfusion can be reduced to less than 10 per cent. The maternal antibody titer is important, because the higher the titer, the more apt is the Rh-positive fetus to be stillborn. When the stillbirth does not occur before the period of viability is reached, babies who would otherwise be stillborn can be saved by termination of the pregnancy prematurely by medical induction (not cesarean operation, unless a maternal indication is present) and treating the baby by exchange transfusion. The different steps of the technic of the exchange transfusion are shown in illustrations.

Proc. Soc. Exper. Biol. & Med., Utica, N. Y.

72:277-522 (Nov.) 1949. Partial Index

Search for Antibiotics Active Against Mycobacterium Tuberculosis. I. Streptothricin-Like Antibiotic from Streptomyces Sp. R. S. Weiser, G. M. Gardner, J. S. Lefler and L. St. Vincent.—p. 283.
Essential Hypertension. Therapeutic Trial of Veriloid, New Extract of Veratrum Viride. R. W. Wilkins, J. R. Stanton and E. D. Freis. —p. 302.
Modification of Hemagglutination Test for Rheumatoid Arthritis. G. Heller, A. S. Jacobson and M. H. Kolodny.—p. 316.
False Positive Trichina Precipitin Reactions in Neoplastic Disease. C. M. Southam, A. E. Thomson and J. H. Burchenal.—p. 354.
Comparative Effect of Aureomycin and Chloromycetin on Psittacosis Infection in Chick Embryos. E. B. Wells and M. Finland.—p. 365.
Hypotension Associated with Nutritive Failure. T. D. Spies and R. E. Stone.—p. 368.
Depressing Effect of Inositol on Serum Cholesterol and Lipid Phosphorus in Diabetics. W. C. Felch and L. B. Dotti.—p. 376.
Lipotropic Effects of Vitamin B_{12} Concentrate. V. A. Drill and H. M. McCormick.—p. 388.
Effect of Mercury on Renal Tubular Transfer of *p*-Aminohippurate and Glucose in Man. R. K. McDonald and J. H. Miller.—p. 408.
Appearance of Acetylcholine During Normal Labor. Hsi-Chun Chang, Khati Lim, Hui-Fang Yeh and others.—p. 413.
Electroencephalographic Changes Associated with Painful and Non-Painful Peripheral Stimulation. F. B. Benjamin and A. C. Ivy.—p. 420.
Cinchophen Choleresis and Production of Peptic Ulcer in Various Species. D. F. Magee, K. S. Kim and A. C. Ivy.—p. 428.
Absorption and Excretion of Streptomycin Para-Aminosalicylate. J. D. Adcock, R. M. Stow, R. Rabezzana and K. Irwin.—p. 451.
Renal Excretion of Digitoxin in Man Following Oral Administration. M. Friedman, S. O. Byers, R. Bine Jr. and C. Bland.—p. 468.
Adrenotrophic Activity of Human Urine. W. Locke, A. Albert and E. J. Kepler.—p. 470.
Plasma Levels of Radioactive Iodine (I^{131}) in Human Tracer Studies. H. S. Rollman and D. W. Petit.—p. 474.
*Distribution of Vitamin B_{12} in Natural Materials. U. J. Lewis, U. D. Register, H. T. Thompson and C. A. Elvehjem.—p. 479.

Natural Sources of Vitamin B_{12}.—Lewis and his associates point out that the increasing use of vitamin B_{12} in the treatment of human macrocytic anemias and in certain natural rations for farm animals makes the knowledge of the distribution of this vitamin in biologic materials of real importance. A rat assay for vitamin B_{12} has been used with considerable success in their laboratory. A sample of "slops" from streptomycin production was found to be high in vitamin B_{12}. Commercial condensed fish solubles showed high activity. Sheep rumen contents were exceedingly active, which suggests a synthesis of this vitamin within the rumen. Milk, cheese, meats and egg yolk were found to be relatively good sources of the vitamin. Dried soybean sprouts, barley, fresh potatoes, beans, cabbage, green peas, alfalfa leaf meal and fresh grass contained no significant amount. It appears that plant materials do not contain measurable amounts of vitamin B_{12}.

72:523-738 (Dec.) 1949. Partial Index

Monkey Pathogenicity of Various Strains of Murine Poliomyelitis Virus. C. W. Jungeblut.—p. 532.
Artificial Kidney: II. Construction and Operation of Improved Continuous Dialyzer. L. T. Skeggs Jr., J. R. Leonards and C. R. Heisler. —p. 539.
Intravenous Infusions of Concentrated Combined Fat Emulsions into Human Subjects. B. G. P. Shafroff, J. H. Mulholland and E. Roth. —p. 543.
Effect of Aureomycin on Herpes Simplex Virus in Embryonated Eggs. G. D. Baldridge and H. Blank.—p. 560.
*Remission of Disseminated Lupus Erythematosus Induced by Adrenocorticotropin. A. W. Grace and F. C. Combes.—p. 563.
Cardiodepressive Effects of Mercurial Diuretics. Cardioprotective Value of BAL, Ascorbic Acid and Thiamin. A. Ruskin and J. E. Johnson. —p. 577.
Inhibition of Urinary Excretion of 17-Ketosteroids by Carbonamide. G. W. Bissell, H. P. Lengstreth and F. M. Gilbert.—p. 584.
Distribution of Chloramphenicol (Chloromycetin) and Its Metabolic Products Between Human Red Cells and Plasma. A. J. Glazko, L. M. Wold and W. A. Dill.—p. 602.
Effects of Hemorrhagic Shock upon Electroencephalogram. H. A. Davis, W. R. Grant, W. P. McNeill and others.—p. 641.
Vitamin B_{12}: Properties and Its Therapeutic Use. H. Lichtman, J. Watson, V. Ginsberg and others.—p. 643.
Treatment of Trichomonas Vaginalis Vaginitis with Aureomycin. L. V. McVay, R. L. Laird, J. B. Flanagan and D. H. Sprunt.—p. 674.
Substance in Egg Yolk Which Inhibits Deterioration of Aureomycin Activity. C. R. Womack, E. H. Kass, E. B. Wells and M. Finland. —p. 706.

Pituitary Adrenal Corticotropic Hormone (ACTH) in Lupus Erythematosus.—Grace and Combes report 2 patients with classic disseminated lupus erythematosus who were given three separate courses of injections of pituitary adrenal corticotropic hormone (ACTH). In each case, there was a tem-

porary, striking clinical improvement and fading of the skin lesions, accompanied with the expected signs of increased adrenal cortical activity. These results suggest that continued administration of pituitary adrenal corticotropic hormone or compound E (cortisone) may be of benefit in lupus erythematosus.

Psychiatry, Washington, D. C.

12:325-450 (Nov.) 1949. Partial Index

Notes on Personal and Professional Requirements of Psychotherapist. F. Fromm-Reichmann.—p. 361.
Existentialism and Its Relations to Psychotherapy. E. Weigert.—p. 399.
Psychodynamics of Alcoholism in Woman. D. Noble.—p. 413.
Use of Rorschach Test in Assessment of Change in Patients Under Psychotherapy. M. J. Rioch.—p. 427.

Psychoanalytic Quarterly, Albany, N. Y.

18:419-564 (Oct.) 1949

Mania and Sleep. B. D. Lewin.—p. 419.
Ego Functions and Dreams. B. Mittelmann.—p. 434.
Post-Traumatic Dream. R. M. Loewenstein.—p. 449.
Dreams and Hypnosis. M. Brenman.—p. 455.
Sense of Time in Dreams. A. Gross.—p. 466.
Technic of Dream Analysis and Field Work in Anthropology. G. Róheim.—p. 471.

Southern Medical Journal, Birmingham, Ala.

43:1-84 (Jan.) 1949. Partial Index

The Doctor's Responsibility to His People. S. P. Kenyon.—p. 12.
Nationalized Medicine and Welfare State. E. E. Irons.—p. 17.
Overprotection: Will It Mean the End of Civilization as We Know It? J. L. Anderson.—p. 20.
Surgical Treatment of Aortic Aneurysm. W. W. Babcock.—p. 23.
Pruritus Ani: Appraisal of Current Therapy. C. Rosser.—p. 26.
Power Exercises in Medicine. G. D. Wilson.—p. 29.
Fractures of Tibial Plateau. H. Winkler and C. Young Jr.—p. 35.
Temporal Arteritis: Report of Case Treated with Intravenous Histamine. DeVoe K. Meade, L. S. Blumenthal and D. B. Holmes.—p. 40.
Complete Heart Block Associated with Pregnancy: Report of 2 Cases. H. Ferguson and C. E. Porter.—p. 44.
Simple Method of Determining Blood Loss. T. Harrison and P. W. Harrison.—p. 46.
Incidence of Sickle Cell Trait in Negroes from Sea Island Area of South Carolina. P. K. Switzer.—p. 48.
*Hemopoietic Response of Patients with Pernicious Anemia to Crystalline Vitamin B_{12}. T. D. Spies, R. E. Stone, M. B. Koch and others.—p. 50.
Gout, Diabetes Mellitus and Obesity, Poorly Appreciated Syndrome. H. T. Engelhardt and E. L. Wagner.—p. 51.
Tetanus: Study of 105 Cases. O. F. Noel and B. McSwain.—p. 53.
Office Management of Localized Neurodermatitis. R. W. Fowlkes.—p. 56.
Patent Ductus Arteriosus: Report of 180 Operations. C. P. Lynswiler and C. R. E. Wells.—p. 61.
Surgeon's Work. H. Mahorner.—p. 67.
Gastro-Enterologic Internist. G. McHardy.—p. 71.
Diabetes and Pregnancy. W. M. Woodall Jr.—p. 73.

Hemopoietic Response to Vitamin B_{12}.—Spies and his associates say that Smith noted the presence of more than one hemopoietically active substance in liver extract. Kaczka, Wolf and Folkers produced a crystalline product of vitamin B_{12} by means of a catalytic reaction with hydrogen. They designated this new compound vitamin $B_{12}a$. It has been shown to have hemopoietic activity in a patient with pernicious anemia. Pierce and others separated from a B_{12} concentrate a crystalline fraction which had a somewhat different absorption spectrum from vitamin B_{12}. Fractional precipitation with acetone yielded small rodlike, red crystals which contained cobalt and phosphorus. These crystals were active in assay. The investigators suggested the term vitamin $B_{12}b$ for this preparation. Spies and others tested the hemopoietic activity and clinical response of this substance in persons with pernicious anemia. All 4 patients with pernicious anemia in whom they employed vitamin $B_{12}b$ had a satisfactory response.

Southwestern Medicine, El Paso, Texas

30:265-296 (Dec.) 1949

Tumors of Adult Renal Parenchyma. R. F. Thompson.—p. 277.
Recent Concepts in Treatment of Whitlow (Bone Felon). W. E. Lockhart.—p. 284.

31:1-32 (Jan.) 1950

Treatment of Snake Bites. R. Holt.—p. 13.
Pruritis Ani. S. M. Ramer.—p. 16.
Surgical Management of Duodenal Ulcer. L. Bennett.—p. 18.

Texas State Journal of Medicine, Fort Worth

46:1-64 (Jan.) 1950

Advantages of Right Lateral Decubitus in Cholecystography. B. R. Kirklin.—p. 5.
*Clinical Significance of Quiescent Gallstones. R. Sparkman.—p. 8.
Surgical Treatment of Gallstones and Their Complications. S. F. Marshall.—p. 12.
Pathogenesis of Acute Cholecystitis with Reference to Early Operation. A. B. Small.—p. 18.
Chronic Headache. G. M. Hilliard.—p. 21.
Protruded Intervertebral Disk Syndrome: Conservatism in Management. R. A. Munslow and J. J. Hinchey.—p. 24.
Hypogastric Sympathectomy for Dysmenorrhea: Evaluation and Technique of Operation. S. P. Todaro.—p. 28.
Use of Hyaluronidase in Ophthalmology. S. N. Key Jr. and S. N. Key.—p. 31.
Modern Treatment of Meningitis. A. L. Hoyne.—p. 33.

Quiescent Gallstones.—According to Sparkman the incidence of gallstones in the general population is about 10 per cent and about 1 in 20 who have gallstones will have carcinoma. Simple cholecystectomy has been accomplished with mortality rates as low as 0.2 per cent. Mortality rates of less than 1 per cent are common. In the presence of complications such as common duct stone or acute attack, distinct rises in surgical mortality rates may be anticipated. On the basis of statistical study the expected mortality from carcinoma of the gallbladder is greater than that of prophylactic cholecystectomy applied to all cases of quiescent stone in which the patient is of suitable age and physical condition. Since carcinoma of the gallbladder is always fatal, because there is no effective treatment, prevention by removal of the diseased gallbladder is important. In the aged or otherwise infirm the value of prophylactic cholecystectomy must be balanced against the life expectancy and the added hazard of operation.

Virginia Medical Monthly, Richmond

77:1-52 (Jan.) 1950

Present Day Concept of Industrial Medicine. R. L. Wells.—p. 4.
Routine Episiotomy and Immediate Perineorrhaphy. M. P. Rucker.—p. 8.
What Happened in Poliomyelitis in Virginia in 1948. A. S. McCown.—p. 11.
*Present Status of Electroencephalography and Its Importance in General Practice of Medicine. I. S. Zfass.—p. 18.
Psychiatric Aspects of Surgery with Special Reference to Post-Operative Psychic Shock. F. Jacobson.—p. 25.
Recurring Pulmonary Infection from Intermittent Partial Inflammatory Bronchial Obstruction: Report of Case. P. P. Vinson.—p. 32.

Importance of Electroencephalography for General Practice.—Zfass discusses the present status of electroencephalography and stresses that his method is no longer an experimental procedure and that the electroencephalographic laboratory is a necessary component of any modern general hospital. He describes some of the newer technics of recording and activation and presents the indications for electroencephalography. He discusses Jasper's new classification of the epilepsies with special regard to neurosurgery and emphasizes the importance of more adequate electroencephalographic studies in the differential diagnosis of the epilepsies. Since the majority of patients with epilepsy are treated by the general practitioner, it is necessary that he be adequately informed of the role of electroencephalography. Cooperation between the general practitioner and specialists in the encephalographic technics is of great importance in the proper treatment of epileptic patients.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

57:569-620 (Dec.) 1949

That Strange Dangerous Malady—The Crush Syndrome. P. B. Price and H. V. Rizzoli.—p. 569.
Clinical Effect of Luteotrophin on Human Lactation: Preliminary Study. D. M. Perese and A. W. Diddle.—p. 576.
Mechanism of Primary Dysmenorrhea. L. B. Greentree.—p. 578.
Candida Albicans and Vulvovaginitis. M. Joseph, J. R. Gannon and C. H. Gowen.—p. 582.
Intravenous Use of Methergine in Intrapartum Care. M. S. Priver, J. M. Harris, L. Krohn and H. H. Bores.—p. 586.
Case of Carcinoma of Vulva Involving Only Prepuce and Clitoris. K. C. Sawyer, W. G. Baker and H. E. McClure.—p. 589.
Endometrial Sarcoid with Report of 2 Cases. M. Vezell.—p. 592.
Rectosigmoidal Electrode. R. Turell.—p. 596.
Cancer Therapy. E. B. Speir.—p. 597.
Sexual and Psychological Adjustment After Sterilization: Follow-Up of 48 Married Sterilized Women in North Carolina. M. Woodside.—p. 600.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted. Single case reports and trials of new drugs are usually omitted.

Annals of Rheumatic Diseases, London

8:257-336 (Dec.) 1949

*Muscle Lesions in Rheumatoid Arthritis. M. Horwitz.—p. 258.
Morquio-Brailsford's Disease Simulating Arthritic Manifestation of Rheumatoid Disease. P. Ellman.—p. 267.
Effect of Blood Transfusion on Rheumatoid Arthritis. N. R. W. Simpson, G. D. Kersley and D. H. Brooks.—p. 277.
Stimulation of Suprarenal Glands in Treatment of Rheumatoid Arthritis: Preliminary Report. Z. Z. Godlowski.—p. 285.
Treatment of Rheumatoid Arthritis with Adenosintriphosphoric Acid (ATP). B. Carlström and O. Lövgren.—p. 293.
Neutral 17-Ketosteroids in Rheumatoid Arthritis and Spondylitis. M. H. L. Desmarais.—p. 296.
Differential Sheep-Cell Agglutination Test in Rheumatoid Arthritis. R. Brown, J. J. Bunim and C. McEwen.—p. 299.

Muscle Lesions in Rheumatoid Arthritis.—Horwitz, in muscle biopsies, found nodules in the endomysium or in the perimysium in 14 of 34 cases of rheumatoid arthritis. The histologic aspects resembled those which in the literature are generally referred to as "nodular myositis." The lesions were noted in active and in "burned out" cases. The nodules were detected readily on histologic examination. In some cases they were sufficiently large to be visible to the naked eye. In an examination of muscles of a control series of 20 cases by biopsy or at autopsy similar inflammatory nodules were found in only 1 case, a case of gout. Certain additional features rendered the differentiation possible from the "nodular myositis" seen in rheumatoid arthritis. Two cases of polyarteritis nodosa showed the characteristic vascular lesions of that disease. Muscle examination in 2 cases of polyarteritis nodosa showed the characteristic vascular lesions. A review of the literature revealed that some investigators have reported the occurrence of "nodular myositis" in a miscellaneous collection of diseases. Their findings indicate that "nodular myositis" is a comparatively common condition in a wide variety of diseases and that it is of no diagnostic value in cases of rheumatoid arthritis. The number of control cases in this series was too small to permit final conclusions, but the results were more in conformity with the "negative" findings noted by most investigators in the examination of muscle in control cases.

British Journal of Ophthalmology, London

38:721-788 (Dec.) 1949. Partial Index

*Investigations into Hyaluronic Acid and Hyaluronidase in Subretinal Fluid in Retinal Detachment, Partly Due to Ruptures and Partly Secondary to Malignant Choroidal Melanoma: Preliminary Report Suggesting New Hypothesis Concerning Pathogenesis of Retinal Detachment. E. Godtfredsen.—p. 721.
Choroidal Sarcoma with Metastasis in Opposite Orbit. S. Philpa.—p. 732.
Adeno-Careinoma (Mixed Tumor) of Lacrimal Gland. N. Fleming.—p. 763.
Thyroidectomy and Thyrotropic Exophthalmos (Exophthalmic Ophthalmoplegia): Review of 1,001 Thyroidectomies. H. Ryan.—p. 769.
Glaze Rod Test in Glaucomatous Eyes. T. L. Thomasen.—p. 773.
Extraction of Cataract in Case of Sympathetic Ophthalmia. F. W. G. Smith.—p. 779.

Hyaluronic Acid in Subretinal Fluid.—Godtfredsen reports studies on the hyaluronic acid and hyaluronidase content of the subretinal fluid in retinal detachments, either primary with ruptures or secondary as a consequence of malignant choroidal melanoma. In all cases of detachment with retinal ruptures the subretinal fluid contained a considerable amount of hyaluronic acid, which was absent when the detachment was secondary to choroidal melanoma. Hyaluronidase was demonstrated in none of the cases. These observations prompted a new hypothesis concerning the pathogenesis of retinal detachment. The development is now conceived to take place gradually by a primary, vascular retinal ischemia producing cystoid degeneration with rupture formation and associated with partial liquefaction of the vitreous body. The liquefaction is caused by local liberation of hyaluronidase, which in turn produces partial depolymerization of the hyaluronic acid in the vitreous body. Tests for hyaluronic acid in the subretinal fluid may become of differential diagnostic importance in difficult cases of malignant melanoma with extensive secondary retinal detachment and small primary tumor. Hyaluronic acid analyses may prove of prognostic value in the diathermal treatment of retinal detachment. Since hyaluronidase may be inactivated by antihistamines, the possibility of a supplementary causal treatment with these substances is suggested.

British Medical Journal, London

2:1485-1540 (Dec. 31) 1949

Quantitative Approach to Study of Transplantable Tumours. J. Craigie.—p. 1485.
Anticoagulant Therapy. H. W. Fullerton and G. Anastasopoulos.—p. 1492.
Excretion of Chorionic Gonadotrophin by Pregnant Diabetics. J. A. Loraine.—p. 1496.
Vitamin A, Total Carotenoids, and Thymol Turbidity Levels in Plasma: Test in Normal Subjects Residing in the Midlands During 1947. D. A. Campbell and E. L. Tonks.—p. 1499.
Chloramphenicol in Treatment of Infantile Gastro-Enteritis: Preliminary Report. K. B. Rogers, S. J. Koegler and J. Gerrard.—p. 1501.
Paratyphoid B Fever Treated with Chloramphenicol. M. Curtin.—p. 1504.
Diffraction Methods of Measuring Red Cell Diameters: Their Use in Clinical Haematology. A. J. Hird.—p. 1506.
Two Successful Resections for Carcinoma of Pancreas. H. Dodd.—p. 1509.

Edinburgh Medical Journal

88:445-508 (Oct.) 1949

Incoordinate Uterine Action. C. Kennedy.—p. 445.
Regional Ileitis. J. S. Jeffrey.—p. 461.
Chemotherapy in Reticulosis. J. Innes.—p. 481.

Lancet, London

2:1163-1208 (Dec. 24) 1949

Family Doctor: Impact of Modern Therapeutic Ideas on General Practice. R. J. Perring.—p. 1163.
*Insulin Test for Vagal Section. B. N. Brooke.—p. 1167.
Sulphetrone in Pulmonary Tuberculosis. H. V. Morlock and R. Livingstone.—p. 1170.
Allergic Specificity of Pollens. E. Budd and J. Freeman.—p. 1171.
*Aspirin in Treatment of Vascular Diseases. P. C. Gibson.—p. 1172.
Cervicodorsal Osteomyelitis with Extradural Abscess. D. R. Allbrook.—p. 1174.
Spondylitis Ankylopoietica with Severe Anaemia Presenting as Acute Abdominal Disease. E. de C. Falle and E. M. Bennett.—p. 1175.
Infantile Cortical Hyperostoses. M. MacGregor and R. Davies.—p. 1176.
D.D.T. Poisoning in Man: Suspected Case. A. M. G. Campbell.—p. 1178.

Insulin Test for Vagus Section.—Brooke emphasizes the need for a reliable standardized test that will prove vagus activity following vagus section. Hollander's insulin test has not been standardized, and its results may be equivocal. The only certain information to be gained from the test arises from a positive or secretory response, which indicates definite vagus activity. With a negative response it cannot definitely be said that all the nerve fibers have been cut, for the stimulation may have been insufficient to reveal activity from just a few residual fibers. Hollander stated that in applying the test to man it is sufficient to reduce the blood sugar to 50 mg. per hundred cubic centimeters. Brooke questions this, pointing out that at the Queen Elizabeth Hospital it has been possible to study the 40 to 50 mg. range more closely: 182 tests were made on 177 patients before vagotomy. These tests demonstrated that in man the blood sugar level must be reduced to 45 mg. per hundred cubic centimeters or below before the test can be regarded as satisfactory. Further, any argument that the acid response depends on the degree of fall from the fasting blood sugar level, or on the rate of fall, was proved invalid. Brooke discusses the method and the dose of insulin for the test. The only certain information to be obtained from the insulin test is that vagus fibers are intact when an acid secretion is obtained. One test only is required for routine purposes, and this is best performed at least six months after the operation, when difficulties which might arise from gastric stasis and insulin resistance are obviated. The patient is given 10 units of insulin intravenously after a twelve hour fast. A blood sample is taken thirty minutes after the injection to assess the blood sugar level, and if possible another sample is obtained forty minutes after injection.

Acetylsalicylic Acid in the Treatment of Vascular Diseases.—Gibson says that because acetylsalicylic acid is an anticoagulant and relieves pain he had previously suggested that it might be effectively used in coronary thrombosis. During the

past nine months it has been widely used for anginal pain by numerous physicians in the area where the author practices, and he sent a questionnaire to twenty-two physicians, of whom twenty replied. Five of these had not used the drug. Of the fifteen who had, eight considered it of undoubted value in relieving and preventing anginal pain; the rest thought that it was of some value; none considered it useless. The author believes that a more extensive trial of acetylsalicylic acid is justified, pointing out that salicylates have maintained their reputation for effectiveness in the treatment of rheumatic carditis for more than fifty years with little scientific justification. Perhaps a common factor in the pathogenesis of these two conditions is increased coagulability of the blood. The 4 histories presented indicate that the usual dosage was 10 or 20 grains (0.65 or 1.29 Gm.) of acetylsalicylic acid three times per day. To avoid inflammation of the gastric mucosa the author gives the drug suspended with tragacanth immediately after a meal, and he adds 50 mg. of ascorbic acid, because salicylates increase the excretion of vitamin C. For coronary thrombosis, the 20 grain dose of acetylsalicylic acid is given every four hours after meals and during the night after a cupful of warm milk. This regimen is continued for ten days or until the erythrocyte sedimentation rate and leukocyte count are normal. The 10 grain dose is then substituted and given four times daily for as long as seems desirable. For anginal pain without evidence of thrombosis the author usually prescribes the 10 grain dose to be taken three or four times daily for as long as is required.

2:1209-1248 (Dec. 31) 1949

Temporomandibular Arthrosis. J. Foged.—p. 1209.
Comparison of Anti-Thyroid Activity of Para-Aminobenzoic Acid and Thiouracil Compounds. J. F. Goodwin, H. Miller and E. J. Wayne. —p. 1211.
Pneumoconiosis After Exposure to Sulphur Dioxide Fumes and Dust from Coke Fires. L. Dunner, R. Hardy and D. J. T. Bagnall. —p. 1214.
Mechanism of Cutaneous Reactions to Insulin. R. C. Paley.—p. 1216.
Protracted Nervous Complications of Typhoid Fever. G. H. Jennings —p. 1218.
*Deoxycortone with Ascorbic Acid Versus Adrenocorticotropic Hormone in Rheumatoid Arthritis. T. D. Spies, R. E. Stone, E. de Maeyer and W. Niedermeier.—p. 1219.
Syphilitic Bursitis with Report of Case. E. W. P. Thomas and A. J. Rook.—p. 1221.

Deoxycortone with Ascorbic Acid Versus Adrenocorticotropic Hormone in Rheumatoid Arthritis.—Spies and his associates selected patients with rheumatoid arthritis, restricted them to a low sodium diet and gave them injections of deoxycortone acetate and ascorbic acid. They noted no relief from the combined injections of deoxycortone acetate and ascorbic acid. Since Lewin and Wassén had observed relief lasting two to six and even up to twenty-four hours, Spies and associates continued their observations a few days longer but saw no amelioration of symptoms, despite almost simultaneous injection of the two agents. They then gave 3 of their patients pituitary adrenal corticotropic hormone (ACTH), 8 mg. four times a day; the other 3 were given injections of distilled water. Both groups remained on the same diet, in which the sodium intake was restricted, and received the daily injections of deoxycortone acetate. The 3 receiving pituitary adrenal corticotropic hormone were improved within eight hours, this improvement continued steadily during the three days in which the injections were continued. The pituitary adrenal corticotropic hormone was then discontinued, and the patients promptly relapsed.

Medical Journal of Australia, Sydney

2:733-764 (Nov. 19) 1949

Cardiac Infarction and Coronary Disease in General in Post-Mortem Examinations. J. B. Cleland.—p. 733.
Aspects of Pathology of Thermal Burns. F. C. Courtice.—p. 738.
Controls in Treatment of Burns. T. F. Rose.—p. 741.
*Longevity of Paraplegics. P. G. Dane.—p. 746.

Longevity of Paraplegics.—Dane cites 2 patients, ex-soldiers, both of whom have been completely paraplegic, one for thirty-two years and the other for thirty-three years. A total of 10 paraplegics had been treated; the other 8 died within three years.

Anales de la Cátedra de Clínica Médica, Buenos Aires

3:1-326, 1949. Partial Index

*Propylthiouracil: Medical Treatment of Hyperthyroidism. E. S. Mazzei. —p. 7.
*Subacute Thallium Poisoning: BAL Therapy. E. S. Mazzei and F. Schaposnik.—p. 49.

Medical Treatment of Hyperthyroidism.—According to Mazzei propylthiouracil is the most reliable drug in the treatment of hyperthyroidism. The therapeutic dose is smaller than that of thiouracil and is well tolerated. The initial daily dose is 150 mg., divided in three or four fractional doses given at regular intervals. The maintenance dose is fixed at 75 or 50 mg., divided into two fractional doses. The daily dose can be reduced to 25 or 50 mg. at a later date and is maintained for six months or longer, provided no toxic symptoms appear and the leukocytic formula is normal. Leukocyte counts are made at frequent intervals. The basal metabolism is determined frequently to prevent myxedema or recurrence of hyperthyroidism. Propylthiouracil, as the only medical treatment, is indicated in (1) cases of moderate hyperthyroidism with goiter of moderate size and without compression of the trachea, (2) when the operation is contraindicated, (3) in adolescents, in the elder patient and in patients with heart diseases and (4) when a patient refuses operation. Surgical therapy is indicated when there is intolerance to drugs, large goiter, intrathoracic goiter, toxic adenoma and goiter compressing the trachea. The value of propylthiouracil, as a substitute for surgery, is not definitely established.

Thallium Toxicosis.—A 16 year old girl ingested, with suicidal intent, a rat poison preparation containing 2 per cent thallium sulfate. The symptoms were those of subacute poisoning, with pronounced weakness and progressive loss of muscle power of the legs. She was given 2,3 dimercaptopropanol (BAL) in daily doses of 300 mg. and received a total of 2.85 Gm. in thirteen days. The patient made a complete recovery. This is the first case of thallium poisoning in which BAL was administered.

Archives Françaises de Pédiatrie, Paris

6:441-560 (No. 5) 1949

Causes of Failure of Streptomycin Therapy of Tuberculous Meningitis in Children. R. Debré, H. E. Brissaud, P. Mozziconacci and others. —p. 441.
Oculocephalic Nystagmus and Mental Deficiency as Encephalic Syndrome Following Whooping Cough. M. Schachter.—p. 467.
Intoxication Due to Ingestion of Cicuta Virosa. D. P. R. Keizer. —p. 471.
*Q Fever (Rickettsia Burneti) in Children. F. Thelin and A. Vogt. —p. 474.

Q Fever in Children.—Thelin and Vogt report 2 cases of Q fever in 2 sisters, aged 6½ and 14 years, who were admitted to the Pediatric Clinic of the City of Geneva. The girls lived with their parents in the city and did not have any contact with workers in slaughterhouses, farms or dairies. The patients' father was a merchant who received merchandise from the United States packed in straw, which could have been the source of the infection. Both patients had a temperature of 102.2 F. with asthenia and fatigue. They did not have abdominal pain or diarrhea and did not present any rash or adenopathy. The younger girl had a severe headache, vomited and had pains in the neck. There was stiffness of the neck for a few hours, but Kernig's, Lasègue's and Brudzinski's signs were absent. Respiration was somewhat labored, and roentgenoscopy showed the hilar shadow to be moderately increased on both sides. The blood cell count revealed leukocytosis with neutrophilia. Acetone was present in the urine. Defervescence took place within two days after the administration of phenylsemicarbazide (cryogenine). There was no cough or expectoration. The complement fixation was positive for Q fever in both patients. These 2 cases illustrate the protean clinical picture of the infection with Rickettsia burnetii, characterized by a scarcity of cutaneous manifestations, by its meningeal and peculiar pulmonary symptoms, its benign course and specific serologic reaction in the absence of a positive Weil-Felix reaction. The importance of the laboratory diagnosis is emphasized. Q fever is primarily a disease of adults, only few cases in children have been reported.

Berliner medizinische Zeitschrift

1:37-72 (Nov. 15) 1949. Partial Index

New Aspects of Therapy of Diseases of Blood. H. Schulten.—p. 58.
*Early Clinical Diagnosis of Rickets. R. Hem.—p. 46.
Paralysis of Abducens During Peridural Anesthesia. E. Stenger.—p. 48.

Early Clinical Diagnosis of Rickets.—According to Hess most textbooks maintain that rickets usually makes its first appearance between the third and fourth months of life, at which time the diagnosis is based on the presence of craniotabes and the rachitic rosary. Thickening of the epiphyses is sometimes mentioned incidentally. The author shows that by palpating for the double malleolus (doubling of the epiphysis of the internal malleolus at the lower end of the tibia) one can ascertain the presence of rickets early, even during the first month of life. This was mentioned as a sign of rickets by Marfan, and its rachitic character has been demonstrated in pathologic studies carried out by Giese. Since the rachitic disturbances underlying this doubling of the epiphysis must exist before this sign becomes evident, the author suggests that prophylaxis for rickets should begin during the prenatal period.

Giornale di Clinica Medica, Parma

30:857-932 (Nov.) 1949. Partial Index

*Familial Hemochromatosis with Symptoms of Hypoadrenalism. G. Capretti and W. Teló.—p. 857.
Vitamin B_1 in Cardiovascular Diseases. M. Falaci and U. Arduini.—p. 902.

Familial Hemochromatosis.—Capretti and Teló report two brothers and two sisters of a family of normal parents and of six children. The 4 patients presented a uniform bronze pigmentation of the skin, of the type of hemochromatosis and hepatosplenomegaly. There was no diabetes or liver cirrhosis. The genitalia were normal except for local hyperpigmentation. The duration of the disease varied from two to 10 years. The patients complained of fatigue, loss of muscle power and asthenia. One of the sisters, a multipara, exhibited symptoms of struma ovarii and adrenal dysfunction. Hemochromatosis is an endocrine dysfunction originating in an embryonal lability of one or more endocrine glands. In late adult life, and rarely in youth, the predisposed tissues become the seat of a pigmented sclerosis, with infiltration of the skin with melanin.

Medizinische Klinik, Munich

44:1525-1556 (Dec. 2) 1949. Partial Index

Therapeutic Action of Salicylamide. O. Wieland.—p. 1530.
Nitrogen Mustard in Therapy of Polycythemia Vera. W. Sperlich.—p. 1533.
Observations on "Infectious Nephritis." J. A. Laberke.—p. 1536.
Etiology of Inguinal Hernia. H. J. Lauber.—p. 1538.
*Pharyngeal Tonsil (Adenoids) in Relation to Disease of Ear, Nose and Air Passages. W. Küstner.—p. 1540.

Adenoids and Diseases of Ear, Nose and Air Passages.—Küstner comments on the high incidence of inflammation and suppurations of the middle ear in children and suggests that the location of the adenoid tissue (pharyngeal tonsil) might be responsible for this. He regards removal of the adenoid tissue of the nasopharynx as a prophylactic measure against suppurations of the middle ear. Removal counteracts stasis of secretions and restores the permeability of the nose and of the eustachian tubes, and thereby insures normal ventilation of these structures and of the middle ear. A large pharyngeal tonsil impairs nasal breathing and produces a state similar to that which exists in acute coryza. This impairs the organ of smell and taste, and, as a result, appetite and enjoyment of food become impaired. This may explain why some children eat poorly, which in turn has an unfavorable effect on growth. This is another argument in favor of the removal of the adenoid tissue. Often when the adenoids (pharyngeal tonsil) are removed, the physician at the same time removes the palatine tonsils. He does not regard this as justified, since the ordinary hypertrophy of the palatine tonsils is not as harmful as some believe. When nasal breathing is impaired, hypertrophy of the pharyngeal tonsil (adenoids) is the decisive factor, although it may be overlooked and the visible palatine tonsils may be regarded as the offensive factor. He advocates that in children the adenoids be removed and the palatine tonsils be left intact, because the hypertrophy of the latter frequently is alleviated after normal nasal breathing has been restored.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

93:3937-4008 (Nov. 19) 1949. Partial Index

Sensitivity to Insulin. G. H. W. Jordans.—p. 3948.
Results of Streptomycin Therapy of Tuberculous Meningitis: 28 Cases. J. E. Minkenhof.—p. 3962.
Apoplexy: Cerebral Hemorrhage, Thrombosis, Embolism and Vascular Obstruction. A. Verjaal.—p. 3965.
*Streptomycin in Urogenital Tuberculosis. J. B. Mullers.—p. 3970.

Streptomycin in Urogenital Tuberculosis.—Mullers describes bacteriologic studies on 7 patients with inoperable urogenital tuberculosis treated with streptomycin. At the end of a year 6 had positive bacteriologic reactions, although the reactions in 2 had been temporarily negative. He concludes that streptomycin is of little value in inoperable conditions of urogenital tuberculosis and that operable conditions should still be treated surgically.

Oncologia, Basel

2:131-192 (No. 3) 1949. Partial Index

*Tumors of Parotid Region: Observations in 64 Cases in Zurich. C. Botsztejn.—p. 133.
Urethane Therapy of Mycosis Fungoides: 4 Cases. E. Musso.—p. 149.

Tumors of Parotid Region.—Botsztejn reviews observations on 64 patients with parotid tumors treated at the Center for Irradiation Therapy in Zurich between 1920 and 1948. He shows that it is difficult to evaluate the character of a parotid lesion on the basis of a histologic picture. The adenomas, although their histologic structure may give the impression of benignity, should be regarded as semimalignant. The age of the tumor probably explains the variable histologic picture. The so-called cylindroma is really an adenocarcinoma cylindromatosum and as such is definitely malignant, although it has a slightly better prognosis than the other primary carcinomas of the gland. The so-called mixed tumors should be designated as pseudo-mixed tumors, because the majority of pathologists are now of the opinion that they are purely epithelial tumors. The pseudo-mixed tumors after a long period may show a malignant character. They may also degenerate into sarcomas. Twenty-six of the tumors were benign or semimalignant, and 38 were malignant. Irradiation by roentgen or radium rays is the therapy of choice for parotid tumors. An exploratory excision is made in order to ascertain the nature of the tumor. This excision can be extensive, but care should be taken not to injure the facial nerve. The region of the tumor should be irradiated with at least 4,000 r in the course of twenty days. Some comparatively large tumors which are not sensitive to irradiation, require 6,000 r in a period of thirty days.

Policlinico, Med. Sect., Rome

56:169-212 (Sept.-Oct.) 1949. Partial Index

Complex Constitutional and Hereditary Microcythemia with Abnormal Erythrocytes. E. Silvestroni and I. Bianco.—p. 169.
*Studies of Iodemia in Heart Insufficiency. L. Roversi.—p. 187.
Determination of Haptoglobinemia in Pulmonary Tuberculosis. M. Ghione and E. Ciamillo.—p. 209.

Studies on Blood Iodine in Heart Insufficiency.—Roversi determined the total and the organic and the inorganic fraction of blood iodine of 8 patients with cardiac insufficiency. Evaluation was made before and after intravenous administration of 75 mg. of vitamin B_1 during three consecutive days. The total iodine content was increased. This increase involved only the inorganic fraction while the organic fraction remained somewhat below its normal value. This modification reached its peak in cases of heart insufficiency with edema and renal insufficiency. After the administration of 75 mg. of thiamine, the hyperiodemia decreases in the inorganic fraction, while the organic fraction tends toward normal values. The changes described are probably due to the breaking down of the mechanism which regulates absorption and elimination of iodine, because of impaired renal function. In the normal state the kidney eliminates 50 per cent of the superfluous iodine. Accumulation of the absorbed iodine increases the total iodine content. Diminution in the organic fraction of iodine must be ascribed to the impairment of functional activity of the iodine-elaborating

organ, owing to impaired circulation. The inorganic hyperiodemia causes a reduction in the organic fraction because of inhibition of the secretory activity of the thyroid. Thiamine reduces the acid metabolic substance, improves acidosis and corrects the iodine level in the blood. The author advocates the use of vitamin B_1 together with cardiokinetic drugs in cardiac insufficiency.

Policlinico (Pract. Sect.), Rome

56:1341-1376 (Nov. 7) 1949. **Partial Index**

Primary Atypical Pneumonia: Critical Review of Literature. G. Sciortino.—p. 1341.
*Effect of Electric Shock in Obstinate, Painful Syndromes. C. Catalano-Nobili.—p. 1348.
Echinococcus of Spleen: Indication for Splenectomy. G. Zannini.—p. 1352.

Electric Shock Therapy for Intractable Pain.—Catalano-Nobili reports on *27* patients with intractable pain. Twenty patients were drug addicts with refractory pain due to thrombophlebitis, ununited fractures, causalgia, neuralgia, painful scars and visceral adhesions. One patient had neuralgia of the fifth cranial nerve, 4 had a pain syndrome of visceral origin and 2 had pain caused by tabes dorsalis. In all instances the pain syndrome was combined with the psychic syndrome which frequently was caused or aggravated by the former. The psychic syndrome in itself suggested electroshock therapy to alter the habit in the drug addicts and to relieve the anxiety and depression in the others. Treatment consisted of electrically induced shock four times daily in two sessions, in most cases under barbiturate anesthesia. As a rule, treatment for two and a half days with 10 shock treatments was sufficient to obtain a syndrome of prolonged absolute loss of consciousness ("annihilation"), resulting in an interruption of the pain and of the associated psychopathologic manifestations. Repeated successive applications at short intervals were effective, while single applications at long intervals were ineffective. He believes that the syndrome of "annihilation" consists in some kind of effect on the afferent nerves because the sensations, although perceived, have no longer the characteristics of intolerability, of deep and torturing affectivity. The thalamus probably plays an important role in the causation of the pain syndrome. The effect of the electroshock therapy consists in the removal of the thalamic component of the syndrome, and in lowering of the threshold of the psychic pain perception.

Praxis, Bern

38:1065-1084 (Dec. 1) 1949

*Atypical Pneumonia and Queensland Fever: New Data in Relation with Retrospective Study of Complement Deviation Reaction with Rickettsia Burnetii. B. Rilliet.—p. 1065.
Therapeutic Application of Injections of Irgapyrin (Pyrazolone Derivative). H. R. Stutthacher.—p. 1069.
Medical Service in Russia. J. Deletra and M. Maurel.—p. 1072.

Atypical Pneumonia and Queensland Fever.—Rilliet reports on 85 patients admitted to the Cantonal Hospital of Geneva, Switzerland, from January 1946 to June 1949 and in whom atypical pneumonia was suspected. A control examination of the blood was performed on 55 of the 85 patients three months to three and a half years after the acute illness. A positive complement deviation reaction with Rickettsia burnetii was observed in 39 of the 55 patients. Q fever was thus established in about three quarters of the cases in which a tentative diagnosis of atypical pneumonia was made. Certain so-called virus pneumonias, miliary virus pneumonia with positive cold agglutination reaction, may depend etiologically on Q fever. A positive complement deviation reaction (Q fever) was observed in 2 of 4 patients with a positive cold agglutination (their titer being above 1:256 during the course of the disease). Definite clinical characteristics of Q fever are not readily recognizable. The onset of Q fever is more violent than that of virus pneumonias. It is associated with chills, rise of temperature, headache and early sweating. The sputum is likely to be blood stained, there may be a strong deviation of neutrophils to the left, while hepatorenal complication may be absent. Characteristic roentgenologic pulmonary changes are rare. A parenchymatous, somewhat dense and completely peripheral shadow in the absence of a visible hilar reaction may aid in the diagnosis, provided fluoroscopy is performed at a favorable moment. The rural communities around Geneva showed a higher incidence of Q fever than the city itself; animals or their excreta mixed with dust seem to be the principal vectors of the disease.

Wiener klinische Wochenschrift, Vienna

61:831-846 (Dec. *2*) 1949. **Partial Index**

Pathologic Anatomy of Brain Abscess. H. Chiari.—p. 831.
Contribution to Early Diagnosis of Primary Carcinoma of Lung. E. Dissmann.—p. 833.
*Contribution to Problem of So-Called Late Diarrhea After Vagotomy. B. Thurnher and M. Wenzl.—p. 837.

Late Diarrhea After Vagotomy.—According to Thurnher and Wenzl diarrhea is one of the most frequent sequela of vagotomy for peptic ulcer. In rare instance severe diarrhea develops one or two months after the operation. The follow-up of *27* patients operated on one to one and a half years previously revealed normal bowel activity in 18, three to four daily movements of soft feces in 7 and severe diarrhea in 4. Delayed evacuation of the stomach for more than five hours was observed in 6 patients, while retention for more than 24 hours was present in 3. Roentgenologic examination revealed an abnormally increased caliber of the duodenal and jejunal loops, the contrast medium reaching the colon only after five to six hours; passage of the fecal current through the colon was normal. The contrast medium remained in the cecum and in the ascending colon for a normal length of time in the patients with diarrhea, while the passage through the transverse and descending colon was definitely accelerated. Passage through the small intestine was accelerated in the 4 patients with severe diarrhea, the contrast medium reaching the colon within two hours. Abnormal filling, collection of gas and variations in caliber suggested disturbances of secretion, absorption and tonus. These observations suggest that there exist two fundamentally different types of late diarrhea after vagotomy. One type is characterized by an almost normal or even retarded passage through the small intestine and an accelerated transit through the colon, which may be interpreted as a manifestation of a decrease in the function of vagal regulation. The other type may be interpreted as enterocolitis due to lesions of the intestinal wall caused by gastric retention. The incidence of these latter cases is not high. They constitute an argument for gastric resection when other therapy fails.

Wiener medizinische Wochenschrift, Vienna

99:527-550 (Nov. 19) 1949. **Partial Index**

Diagnosis of Obstacle to Delivery. H. Heidler.—p. 527.
Evaluation of Therapeutic Methods in Arterial Diseases of Lower Extremities. H. Steindl.—p. 530.
*Increased Frequency of Penicillin-Resistant Pathogenic Cocci. K. Berger.—p. 536.

Penicillin-Resistant Pathogenic Cocci.—Berger observed an increased frequency of penicillin-resistant strains of pathogenic cocci in the Staphylococcus aureus group only, but not in gonococci, pneumococci or hemolytic streptococci. Only 2 of 411 Staph. aureus strains (0.5 per cent) grown from diseased tissue proved resistant to penicillin during the period November 1946 to March 1947, while 8 of 248 Staph. aureus strains (3.2 per cent) proved resistant to penicillin during the same months in 1947-1948 and 44 of 227 strains (19.4 per cent) in 1948-1949. Recently the ratio of penicillin-resistant strains of Staph. aureus reached 40 per cent in one hospital. The increased frequency of penicillin-resistant staphylococci is associated with the progressively increased therapeutic use of penicillin and with the fact that hospitals as centers of penicillin therapy become "breeding places" of penicillin-resistant strains of staphylococci, since penicillin therapy reduces only the sources of dissemination of strains susceptible to penicillin, but not those of the penicillin-resistant strains. There is a steady increase of penicillin-resistant staphylococci in new infections occurring in these hospitals, and the number of wounds which become contaminated secondarily with penicillin-resistant strains is likewise on the increase, with the resultant increased dissemination of the resistant strains. In contrast to gonococci, pneumococci and hemolytic streptococci, the increase in penicillin resistant staphylococci occurs because of the existence of strains of staphylococci which are naturally resistant to penicillin.

Book Notices

THE REVIEWS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES AND DO NOT REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED.

Medical Latin and Greek. By Mignonette Spilman, Ph.D., Professor of Classics, University of Utah. Second edition. Paper. $3.25. Pp. 139. The Author, K. H. 316, University of Utah, Salt Lake City 1, 1949.

This well planned book will be a valuable tool in the hands of diligent and persevering students of medicine who can devote to its study the time and effort needed to master its contents. Medical nomenclature, and many English words as well, carry new meaning when the student has even a bowing acquaintance with Latin and Greek.

About three fifths of the book is devoted to Latin and the remainder to Greek. Each section is developed in the same general way. The plan of instruction is necessarily simple. Three fourths of the Latin section, for example, is devoted to vocabulary study, the remainder to pronunciation, declensions, verbs, nouns, adjectives, prefixes, suffixes and phrases. Special attention is given to the Greek alphabet and to vowel and consonant changes. The vocabularies, which show Latin and Greek sources, include numerous illustrative examples of the English uses of the words and of their medical applications. Spot checks detected none of the errors that might be expected in a new edition.

This book contains more concentrated information than the average student will master, especially if self instruction is necessary. It is regrettable that planographing was employed, since its limited type forms do not provide a suitable contrast between the English and foreign words. The result is a page that is difficult to read.

Gynecology & Gynecologic Nursing. By Norman F. Miller, M.D., Professor of Obstetrics and Gynecology, University of Michigan Medical School, and Betty Hyde, R.N., Supervisor of the Gynecology Wards, University of Michigan Medical School, Ann Arbor, Mich. With Chapters on the Gynecology Operating Room by Molly Kowal, R.N., and on the Psychosomatic Approach in Gynecology by Sprague Gardiner, M.D., Assistant in Obstetrics and Gynecology, University of Indiana Medical School, Indianapolis. Second edition. Cloth. Price, $4.25. Pp. 465, with 240 illustrations. W. B. Saunders Company, 218 W. Washington Sq., Philadelphia 5; 7 Grape St., Shaftesbury Ave., London, W.C.2, 1949.

This edition maintains the high standards established by the first edition. The material is arranged in a logical manner, so that the nurse is familiarized with the anatomy and the physiology of the reproductive organs before she embarks on their abnormalities. Mechanical disturbances, including childbirth injuries and relaxations, infections, neoplasms and some pregnancy complications, are described in separate sections. Nursing procedures peculiar to gynecology are considered in detail in a separate chapter. An appendix contains descriptions of specialized procedures.

The style is interesting and the text profusely illustrated with pen and ink sketches. The dual authorship of an outstanding gynecologist and an equally well trained nurse educator has resulted in the proper emphasis on nursing education. This textbook can be recommended highly for use in nursing curricula.

Manual of Pharmaceutical Law. By William Pettit, Lecturer in Pharmaceutical Jurisprudence, University of Pittsburgh. Cloth. $2.75. Pp. 170, with 1 illustration. The Macmillan Company, 60 5th Ave., New York 11, 1949.

The author presents the legal aspects of the practice of pharmacy. However, as in the case of all statutes, revision is almost a continuous process. The utilization of such a manual as a teaching textbook would require many supplements or, what is even more significant, the authentication of all rules and regulations which the various legislative divisions of government are privileged to promulgate.

The value of the book might be enhanced if it more clearly portrayed the responsibilities of the pharmacist to the patient as well as to the members of the allied professions. The text overemphasizes the complexity of law and its procedures, without giving due attention to the simplicity of the ethical principles which underlie the advantageous practice of the profession.

A Philosophy of Life. By Richard N. Bender. Cloth. $3.75. Pp. 250. Philosophical Library, Inc., 15 E. 40th St., New York 16, 1949.

From its title, this book might be anything from a study of ethics to a discussion of the nature of life. However, the announcement on the cover states: "This is a new kind of book. It presupposes no formal training in philosophy, requiring only that the reader be interested in such problems as the nature and significance of human personality, the kind of God in whom a rational man can believe and the pathway to human happiness." It is essentially a textbook in philosophy.

Every young man and woman who has an enquiring mind and seeks wisdom asks: "What am I? What is matter? What is the universe? Did it begin or has it existed forever? What is the relation between my mind and my body? Are they one thing or two? What is the explanation of the coexistence of good and evil? Is there a maker, called God, and, if so, who made God and what is his nature? Did he make both good and evil and, if so, why? What is good and what is evil?

It is to answer these questions, as well as the incomplete knowledge of the present time permits, that this book was prepared. It is written in simple nontechnical language, with a pleasant style and presents fairly the arguments for and against the usual conclusions. I have seen no other book quite like it. Dr. Bender's statement on the value of personality on page 200 and his criticism of existentialism, the doctrine that whatever is is right, are especially clear and concise.

Some chapters, of course, are better than others. The first six are particularly fine. The seventh chapter would be improved and made more complete if it embodied something of Sir Arthur Keith's views on the evolution of man, those of Alfred Machin in "What is Man?" and those of Bertrand Russell in "Authority and the Individual." These authors give a clear, rational explanation of what sin and goodness are and how they have originated. Elsewhere in the book the author has expressed views in harmony with their conclusions but not in the seventh chapter, which discusses the paradox of good and evil. Chapter 8, on "Knowing God," appears to be the weakest.

In a book of this kind, covering such a large field, it is impossible to avoid some errors and omissions. One omission, for example, is that of Stalin's name on page 185, where Hitler and Mussolini are cited as upholding the concept that might makes right.

An error which was particularly noted, and a common one, is the treatment of scientific laws as if they in some way controlled phenomena and made things happen. For example, on page 116 is the statement: "There is evidence that God is good and that the laws which he has set into operation operate for the expansion of personality." Now while it is not improbable that personality is developing, so far as is known laws do not cause the development. A scientific law never operates. It does no work. It is simply a concise and accurate statement of what has been found to happen in certain circumstances, at certain places and at certain times. A law in science is not an enactment of will of either a people or a person. It is not a command, although it is often so presented, as, for example, in the ten commandments. The ten commandments forbid certain acts which have been found by long experience to be antisocial and to produce general unhappiness and commend other actions having a contrary effect. Some man "in the dark backward and abysm of time," some Egyptian priest, Moses for example, or some Babylonian king, Hammurabi, perceived their action on society, gave them the form of commands and ascribed them to God.

The principal weakness of the book is that it does not sufficiently emphasize the supreme importance of the creative powers of the individual man and woman. For it is this power of creation by gifted men and women that has caused the development of civilization. The main difference between men in the old stone age and at the present is in this power. Individuals and governments may be judged, and their relative positions in evolutionary development may be assigned, by the amount of creative power which they have in arts, literature, science and ethics. It is by this power of individual creation man partakes of the nature of the Creator. To foster this power should be the main end of governments and creeds as Russell so clearly sets forth.

Marihuana in Latin America: The Threat It Constitutes. By Pablo Osvaldo Wolff, M.D., Ph.D., M.A., Member of Expert Committee on Habit Forming Drugs of the World Health Organization, Buenos Aires. Translated from the Spanish edition. Paper. Price, $1.50. Pp. 58. Washington Institute of Medicine, 1708 Massachusetts Ave., N.W., Washington, D. C., 1949.

Following a complimentary foreword by the Honorable Harry J. Anslinger, United States Commissioner of Narcotics, the main theme of Dr. Wolff's treatise is expressed in these words: "Not all of those who are under the effects of a narcotic, like opiates, are persons afflicted by vice, as it has been explained on other occasions. In contrast, the use of marihuana is always an abuse and a vice in the strictest sense of the word. So far as this drug is concerned, there is no medical indication whatsoever that will justify its use in the present day and age, as is the case with opiates and also, up to a certain point, with cocaine, although increasingly broad limitations already are being applied to the latter, restricting its use in operative medicine." "I repeat my initial warning: there is not, as is the case with the opiates, any reason, any excuse, any indication for its use. It is always an abuse, dangerous to the individual and to the race. It is not yet too late for us to recognize the menace which appears to be drawing near." On the intervening pages, Dr. Wolff discusses the frightening spread of the use of marihuana throughout each of the Latin American countries. As Dr. Wolff points out, this spread also constitutes a threat to the United States. Certain medicolegal problems raised will be of interest to persons concerned with law enforcement. Generally speaking, the book is well suited to reading by the lay public and contains much of educational value in largely nontechnical language.

Practical Orthoptics in the Treatment of Squint (and Other Anomalies of Binocular Vision). By T. Keith Lyle, M.A., M.D., M.Chir., Surgeon and Medical Officer in Charge of Orthoptic Dept. At the Westminster Branch of the Moorfields, London, and Sylvia Jackson, S.R.N., D.B.O. With the Assistance of Lorna Billinghurst, D.B.O., Orthoptist, Addenbrooke's Hospital, Cambridge, Eng., and Diana Salsbury, D.B.O., Senior Orthoptist, Westminster Branch of Moorfields. Third edition. Cloth. Price, $8.50. Pp. 371, with 152 illustrations. The Blakiston Company, Division of Doubleday & Company, Inc., 1012 Walnut St., Philadelphia 5, 1949.

This well known textbook on orthoptics shows plainly the great amount of work entailed in its revision. Large sections have been rewritten "in view of the advances that have been made in orthoptic treatment and in the treatment of strabismus, generally during the past seven years." It is well written and easily readable. The excellent selection of illustrations and diagrams heighten its interest. The photographs of instruments with detailed description are especially valuable. Included is an excellent glossary of terms and complete index.

The subject is extremely well covered. The chapters on Anomalous Retinal Correspondence and Acquired Paralytic Strabismus are of unusual merit. This book fills an important place in the study of orthoptics and correlates the relationship of the physician to the orthoptist in the management of strabismus. This edition has been expanded to meet the increased requirements of the British Board of Orthoptics for diplomas, which now cover two full years of study instead of one year.

Ophthalmic Medicine. By James Hamilton Doggart, M.A., M.D., F.R.C.S., Surgeon, Moorfields Hospital, London. Cloth. $6. Pp. 329, with 115 illustrations. The Blakiston Company, Division of Doubleday & Company, Inc., 1012 Walnut St., Philadelphia 5, [1949].

Having been asked to either edit Foster-Moore's famous "Medical Ophthalmology" or write a new book along similar lines, Doggart chose the latter course and a new title. His work is an up-to-date, excellently prepared and illustrated short textbook on medical ophthalmology. It contains ophthalmologic material arranged according to the systemic disease or localized extraocular disease which constitutes the cause or at least forms the background for the respective ocular disease. The first four chapters of the book are devoted to ophthalmologic history taking, methods of examination and symptomatology. From then on, each chapter is devoted to a discussion of the eye manifestations of a single systemic disease or of a characteristic group of such disease. Typical chapter headings, therefore, are allergy, syphilis, gonorrhea, tuberculosis, focal infection, virus infections and fungus infections. Chapter 9 is entitled "Inflammatory Syndromes" and deals with sarcoidosis, keratoconjunctivitis sicca, Reiter's disease, ophthalmia lenta, dermatomyositis, Behcet's sysmptom complex, Vogt-Koyanagi syndrome and Stevens-Johnson syndrome. Throughout the book the author emphasizes "how intimately the eye is linked, not only with adjacent structures but also with remote parts of the body."

Most references to systemic, as well as to ocular diseases, are too brief to be fully understood without "pre-existing" knowledge of internal medicine and ophthalmology acquired through the conventional textbooks. The new "Ophthalmic Medicine" is clearly indicative of the author's vast clinical experience and definite views on many ophthalmologic matters. While these views, in some instances, may seem somewhat one sided or even extreme, the ophthalmologic wisdom emanating from most of the text and its lucid, lively and often humorous style will do much to satisfy most readers.

Diseases of the Nervous System Described for Practitioners and Students. By F. M. R. Walshe, M.D., D.Sc., F.R.S., Physician in charge of the Neurological Department, University College Hospital, London. Sixth edition. Cloth. $5. Pp. 359, with 60 illustrations. The Williams & Wilkins Co., Mt. Royal & Guilford Aves., Baltimore 2, 1949.

This book is intended for the student and general practitioner. Its success is indicated by the necessity for six editions in the short space of eight years. The author has described the diagnosis and treatment of the major neurologic syndromes in a clear, concise fashion with a minimum of controversial material. The book is not intended for the specialist and does not contain detailed information about rare syndromes.

The book is divided into two major sections. The first contains a discussion of the principles of neurologic diagnosis with summary descriptions of the characteristic symptom complexes of diseases of the nervous system. This is correlated with a brief discussion of relevant anatomy and physiology. The second section deals with the common neurologic diseases. An attempt is made to apportion space to them according to their relative importance. Many of the rarer syndromes are not mentioned, and other diseases are treated briefly. The necessity for this in a brief and elementary textbook is obvious, and the author's choice of pertinent material is good. One might question the advisability of including the short chapter on the diagnosis of the neuroses in a simple textbook.

The text is well adapted to the use of the medical student and general practitioner. It contains a simple and able description of the more common neurologic syndromes with a discussion of diagnostic procedure and treatment possible in general practice.

Physikalische Chemie in Medizin und Biologie. Von Dr. phil. W. Bladergroen. Geleitwort von Prof. Dr. M. Boch, Direktor der medizinischen Klinik der Universität Genf. Second edition. Cloth. Price, 45 Swiss francs. Pp. 675, with 193 illustrations. B. Wepf & Co., Verlag, Elsengasse 5, Basel, 1949.

The book is couched in the simplest of scientific German and can be followed with facility by any medical student or physician who has a reasonably fair acquaintance with the language. The thought is clear, and the sentences are short and not involved. The great value of the book lies in the wealth of correlation between concepts of physical chemistry on the one hand, and biology in general and medicine in particular on the other. The author's aim is to present the biologic aspects of physical chemistry in a way rarely used by writers on this subject. He employs with great success the subject matter of biochemistry, physiology and pathology as a vehicle for his physical chemistry. The result is a book in which almost every explanation, illustration or application of theories basic in physical chemistry is taken from those topics in which the medical student or the physician has already acquired a useful body of knowledge.

The first few chapters tend to be introductory and explanatory of fundamentals, such as molecules, atoms, ions, electrons, neutrons, isotopes and their therapeutic applications, radiant energy, electrovalency, optical activity and catalysis. The succeeding chapters are devoted to various biologic systems. In the discussion of the biologic milieu, namely, water, the author emphasizes the physicochemical concepts relative to this fluid, such as the theories of solution, electrolytic dissociation, hydrogen ion concentration, osmotic pressure, hydrolysis and the modern viewpoints on acids and bases. Blood is treated in relation to colloidal systems, viscosity, hydrogen ion concentration, acid-base

equilibrium, acidosis and alkalosis, the relation of the respiratory center to blood p_H, coagulation and sedimentation rate.

Since surface phenomena play a major role in biochemical activities, proper stress is laid on surface tension, the phase rule, colloids, monomolecular films, adsorption, electrophoresis, chromatographic adsorption and chromatographic analysis. The structure of living substance gives the author the opportunity of discussing the structure of protoplasm, carbohydrates, lipids, proteins, nucleoproteins, viruses, enzymes and coenzymes, biologic oxidations, cell membranes, the Donnan equilibrium, diffusion, permeability, edema and the problem of narcosis. Intermediate metabolism, as well as muscle contraction, glycolysis, phosphorylation and the significance of trace elements.

The reader in perusing the book is impressed with the viewpoint that the biologic organism is a very dynamic entity operating under the laws of physics and chemistry. The book dispels the idea so prevalent that physical chemistry is not for the medical man. He will be agreeably surprised to learn that physical chemistry, as dished up attractively by the author, is not an abstract or abstruse subject. As a matter of fact, rightly presented, as the subject matter is in this book, it offers a great deal of surprisingly good information and useful applications concerning the many physical and chemical mechanisms involved in the physiology and pathology of life processes.

Textbook of Bacteriology. By C. H. Browning, M.D., LL.D., D.P.H., Gardiner Professor of Bacteriology, University of Glasgow, and T. J. Mackie, C.B.E., M.D., LL.D., Professor of Bacteriology, University of Edinburgh. Eleventh edition of Muir & Ritchie's "Manual." Cloth. $12.75. Pp. 907, with 225 illustrations. Oxford University Press, 114 Fifth Ave., New York 11; Amen House, Warwick Sq., London, E.C. 4, 1949.

The subject matter of bacteriology is vast and necessarily specialized. Today numerous modern textbooks are available to satisfy the needs of the varied workers in this field, whatever be their point of orientation. Browning and Mackie have written primarily from the point of view that micro-organisms can cause disease to man and the animals that surround him.

After introductory sections on the morphology, physiology and immunology of bacteria, pathogenic species of bacteria within the various genera are presented so that the disease process, its diagnosis in the laboratory, and its immunologic measures are given both in terms of basic factual material and by citation of published work. A similar treatment is accorded sections on the Rickettsia and Bartonella, the Spirochetes, viruses, pathogenic fungi and Protozoa, the Leishmania and Toxoplasma, which follow. Sections on chemotherapy, the normal flora of skin and mucous membranes, and the bacteriology of air, water and sewage complete the volume. In order to combine theory with practice, all the sections are interspersed with practical laboratory instructions (often in small type) for demonstrating the various phenomena described, and an appendix of almost a hundred pages gives the basic technics necessary to the laboratory worker. A useful feature is a large bibliography at the end of the volume. The writing of the authors is lucid and easily read. Nomenclature is varied and in most instances includes the names adopted by Bergey's "Manual of Determinative Bacteriology."

In a sense, the text of Browning and Mackie has grown up with the subject. First published fifty-three years ago as Muir and Ritchie's "Manual of Bacteriology," it passed through ten editions before the present authors revised the work. In 1897 the primary outlook of bacteriology was that bacteria and other micro-organisms are capable of causing disease. The concepts of pathogenesis and parasitism, important in nurturing the babe, could not contain it. Investigators soon found micro-organisms intimately interrelated with all the processes of the globe.

Some of this classic outlook still pervades this book. An introductory chapter on the physiology of bacteria contains little of the modern detailed knowledge of how bacteria function, how they metabolize or respire. Theoretic considerations of the principles involved and their development play minor roles to the elaboration of detail. In this sense the book is more a manual than a textbook. Perhaps these are compromises resulting from the limitations of space.

However, considering the scope of the book, which covers the field of pathogenic micro-organisms rather than that of pathogenic bacteriology, as the title indicates, the authors have been, to a great extent, successful. They have produced a working textbook, up-to-date in its data and of practical use in the laboratory. The medical student, the practitioner and the laboratory worker will benefit from use of it.

There were a number of minor errors in the text. Autoclaving temperature is given as 30 pounds per square inch equalling 121.5 C. instead of 15 pounds (page 28), and the minimum lethal dose for diphtheria toxin is incorrectly defined on page 83 (a guinea pig is killed in five days instead of four).

Medical Clinics on Bone Diseases: A Text and Atlas. By I. Snapper, M.D., Physician and Director of Medical Education, the Mount Sinai Hospital, New York. Second edition. Cloth. $20. Pp. 308, with 46 plates. Interscience Publishers, Inc., 215 4th Ave., New York 3; 24 Southampton Row, London, W.C. 1, 1949.

This edition maintains the high standards achieved by the first edition published in 1943 and reviewed favorably in THE JOURNAL. Because of changing concepts of disease of the skeletal system, the author has found it necessary to completely revise the current edition. The chapter on hyperparathyroidism has been subdivided into introductory remarks, Recklinghausen's bone disease, renal and gastrointestinal manifestations and treatment and summary. New chapters include those on osteoporosis, osteoporosis circumscripta cranii, leontiasis ossea, neurofibromatosis of bone and the skeletal lesions of lymphosarcoma, Hodgkin's disease and hemolytic anemias.

The manner of presentation remains essentially the same as in the previous edition. The concise historical introductions and the authoritative clinical discussions add greatly to the usefulness of the book, as do the sections on differential diagnosis. A short but adequate description of the underlying pathologic process and the resultant roentgenologic changes are an integral part of the work. The references included at the end of the sections are up-to-date and show careful discretion on the part of the author. The illustrations in general and the numerous photomicrographs and roentgenograms are excellently reproduced, being well chosen and unusually graphic. It is regrettable that technical reasons necessitated placing some of the plates apart from the subject matter, although the quality of the photographic reproductions compensates in part for this undesirable feature. The book is recommended to all physicians interested in disease of the skeletal system.

May's Manual of the Diseases of the Eye for Students and General Practitioners. Edited by Charles A. Perera, M.D., Assistant Clinical Professor, College of Physicians and Surgeons, Columbia University, New York. Twentieth edition. Cloth. $5. Pp. 512, with 378 illustrations. Williams & Wilkins Company, Mt. Royal & Guilford Aves., Baltimore 2, 1949.

For half a century this manual has served the medical student and the general practitioner of the United States and of many foreign countries as a trustworthy, informative and "friendly" guide in ophthalmologic matters. In this edition of this miniature textbook of ophthalmology, many portions of the work have been rewritten and reorganized, without any essential deviations from Dr. May's original conception. Credit for the success and popularity of the more recent editions goes to Dr. Charles A. Perera, whose unceasing efforts are clearly revealed in the new edition. Although many of the old illustrations have been replaced with new ones, in accuracy as well as in lucidity the illustrative material lags behind the text.

Clinical Cystoscopy: Technic, Procedures, Diagnosis, Treatment. Volumes I and II. By Lowrain E. McCrea, M.D., F.A.C.S., F.I.C.S., Clinical Professor of Urology, Temple University Medical School, Philadelphia, Pa. Drawings by B. Engle Shaffer. Second edition. Cloth. Price, $20 the set. Pp. 585; 587-1152, with 742 illustrations. F. A. Davis Company, 1914-16 Cherry St., Philadelphia 3, 1949.

These two volumes are outstanding with respect to their subject matter and the beauty of illustration. The contribution to clinical cystoscopy goes beyond the pattern set by previous authors and publishers. The completeness of the index and bibliography represents much effort in the selection of pertinent material, and little if anything of significance is omitted. It is only in recent years that such beauty and accuracy of illustration has been possible. Careful perusal of selected chapters leads one to the conclusion that no other publication affords as complete and accurate presentation of cystoscopic technic and diagnosis.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

TREATMENT OF HICCUP

To the *Editor*:—After hearing that glyceryl trinitrate would control hiccup, I tried it on myself and on several patients. In each case, 1/200 to 1/150 grains (0.3 to 0.4 mg.) sublingually gave immediate relief. These were simple cases of hiccup, not caused by intoxication or organic disease. Is this use of the drug recognized?

I have given 10 cc. of a 25 per cent solution of nikethamide administered as one intravenous dose to patients in acute alcoholic coma. Within five minutes the patient begins to sneeze, then vomits profusely, whereupon he is wide awake and alert and does not appear sick or drowsy. There was no apparent respiratory stimulation. Is 10 cc. considered a dangerous dose in a comatose patient? **P. C. Zanger, M.D., Brooklyn.**

ANSWER.—Glyceryl trinitrate is not generally recognized as a treatment for hiccup. It is possible, however, that by producing cerebral vasodilitation, the central overstimulation of the phrenic nerve was abolished. It is not possible, however, to assign a specific mechanism without additional experimental data. The use of vasodilators other than the nitrites might be tried to test this hypothesis.

Although nikethamide, in ordinary dosage, is primarily a medullary stimulant, large doses may stimulate higher centers and the spinal cord. It has been recommended as an analeptic for the treatment of acute alcoholism. The ordinary dose is 2 to 3 cc. intravenously, and a dose of 10 cc. can be considered excessive and may be dangerous if injected rapidly, producing convulsions and death from respiratory failure. However, since nikethamide is rapidly destroyed in the body, the rate of injection is considered to be more important than the total dose in determining the severity of reactions to the drug.

MIGRAINE

To the *Editor*:—Of what benefit is nicotinic acid in daily doses of 50 mg. for two days in migraine? A patient who has had migraine for about seventeen years did not respond to antihistamine, ergot preparations or hormones. Nicotinic acid brings relief for about twelve hours. However, the attacks of migraine come in shorter intervals and last longer.

M.D., Rhode Island.

ANSWER.—Assuming that the patient has migraine, daily administration of 50 mg. of nicotinic acid should not be of any significant value. Any case of true migraine which has not responded to appropriate therapy with ergotamine tartrate is statistically suspect. There is a small group of patients with migraine that does not respond to ergotamine and an equally small group that appears to respond to vasodilators such as nicotinic acid. It is possible that the shorter intervals and longer durations of the attacks are due to a partially abortive effect of the nicotinic acid. No definite suggestions can be given with regard to further treatment of the patient without more detailed history concerning the type of attack and its possible relation to allergic, endocrine, autonomic or psychogenic factors and, especially, additional information concerning why the attacks at this time appear to be increasing in number and in duration.

CORONARY THROMBOSIS

To the *Editor*:—A man of about 40 sustained a compound comminuted fracture of the left leg three years ago, followed by thrombophlebitis of the leg and then by infarction of the base of the right lung. If there has not been any recurrence of the thrombophlebitis, is it logical to assume three years later that a recent coronary thrombosis is in any way related to the original injury or the complications which immediately followed? **James V. Lorenz, M.D., Wilkes Barre, Pa.**

ANSWER.—There has been some controversy regarding the relationship between trauma and coronary thrombosis. Most cardiologists consider that trauma is a precipitating factor in coronary occlusion only in exceptional cases, although shock may induce coronary insufficiency of severe degree, particularly in persons with some degree of coronary artery sclerosis. It is not conceivable that an attack of coronary occlusion could in any way be related to an injury which occurred three years previously.

AMAUROTIC IDIOCY

To the *Editor*:—What are the chances, following the birth of a child with Tay-Sachs disease, of succeeding children being normal?

Jack Sang, M.D., Bronx, N. Y.

ANSWER.—Amaurotic idiocy or Tay-Sachs disease takes two forms: one (infantile) is diagnosed shortly after birth, the other (juvenile) appears when the child is 6 to 8 years of age.

Slome (The Genetic Basis of Amaurotic Family Idiocy, *J. Genetic.* **27**:363-376, 1933) made a statistical study of the infantile type from reports in the literature. He gave data on the number of cases occurring among brothers and sisters in ninety-two families, among which 135 infants suffered from the disease in a total of 456 brothers and sisters. One infant only was affected in sixty-five families; two were affected in seventeen families; 3 siblings had the disease in each of six families; four were affected in each of three families, and there were 6 infants with amaurotic idiocy in one family.

The infantile form of the disease appears with much greater frequency among Jewish people than among Gentiles. Just the opposite is true in the case of the juvenile form. The frequency of the infantile form is increased further in families in which the parents are blood relatives.

For a general consideration of the hereditary nature of both types of the disease, the reader is referred to the two volume work "Human Genetics" by R. R. Gates, published by the Macmillan Company.

TOTAL ACIDITY OF GASTRIC CONTENTS

To the *Editor*:—I have recently been unable to obtain an end point for total acidity of gastric contents. With a free acidity of 50 degrees I obtain a total of 300 or 400. I have used two different batches of phenolphthalein from two reliable manufacturers. I used twentieth-normal sodium hydroxide for titration. What causes the difficulty? The phenolphthalein reacts with a drop of sodium hydroxide in the absence of the gastric contents. **M.D., Pennsylvania.**

ANSWER.—The results obtained in the preceding instance are unusual. The total acidity of gastric contents uncontaminated with intestinal contents, saliva or food should not exceed the free acidity by more than 15 to 20 clinical units. Furthermore, the highest free acidity that can be physiologically obtained is 160 clinical units, and this is with pure gastric juice from some hyperacid patients. Thus, the free acidity and total acidity in such a specimen will be the same.

There are several possibilities that may have occurred in the preceding determinations. The lactic acid content of the gastric juice may have been extremely high. However, to be so high as to give a total acidity of 250 to 350 clinical units higher than the free acidity is unlikely. Likewise, gastric juice contaminated by intestinal contents would not give such a great difference. The difficulty most probably lies in the phenolphthalein in spite of the fact that two different batches were tested and the phenolphthalein reacted to twentieth-normal sodium hydroxide, which has a p_H of approximately 12.7. This does not necessarily mean that the phenolphthalein will react at a p_H of 8.2.

The method of titration that offers the least possibility of interference is to use a glass electrode p_H meter to determine the end points. Electrodes with long leads are available; these are kept in the solution during the titration. The end points are then taken at p_H 3.5 and 8.2, instead of using the color changes of Töpfer's reagent and phenolphthalein.

ARTHRITIS, FOCAL INFECTION AND BEER

To the *Editor*:—I would like to know whether focal infection would be a more likely cause of arthritis than beer drinking. What are the constituents of, and their percentages in, average beer? Are there any authentic data on the average amount which will cause a mild degree of inebriety? **Charles Wolf, M.D., New York.**

ANSWER.—A query in THE JOURNAL, Aug. 6, 1949, page 1191, denied that beer drinking would cause arthritis. Joint swelling and pain may be symptoms of allergy, the mechanism being a deleterious antigen-antibody reaction in a tissue containing fixed antibodies, when the circulating antigen comes in contact with the immunized (or sensitized) joint tissue. The antigen may be ingested but causes its greatest reactions when given by injection; for example, the joint manifestations of delayed serum sickness. By analogy, the mechanism by which focal infections might produce joint inflammation is probably the same. In focal infection there are variable amounts of circulating bacterial proteins arising in an infected tissue, which may find corresponding antibodies in the joints, again producing an antigen-antibody reaction with symptoms of inflammation.

The average American beer is produced from 70 per cent barley-malt and 30 per cent of unmalted cereals such as rice, corn grits and sometimes sugar. In the brewing process the starch and other carbohydrates of the grain are changed into dextrines and maltose or malt sugar. In the fermentation process the maltose by enzymatic action is changed to dextrose (glucose or grape sugar) before the yeast cell can ferment this, forming alcohol and carbonic acid gas and other substances in small amounts. The sugar present in a completely fermented beer is given in the analysis as "reducible sugar," and strictly speaking this is not maltose. The quantity of hops used in brewing is small, less than ½ pound (0.23 Kg.) per barrel (31 United States gallons, 117.3 liters), and it is practically eliminated except for the flavor and aroma. The data in the first column of the following tabulation are for the average beer now marketed, in the second column for a so-called 3.2 per cent alcoholic content by weight (or about 4 per cent alcohol by volume). The latter beers are sold in states in which a beverage with a higher alcoholic content is prohibited by law, as in Texas and Oklahoma:

	Average Beer	3.2% Beer
Apparent extract	3.50	4.40
Alcohol, percentage by weight	3.70	3.05
Alcohol, percentage by volume	4.75	3.92
Real extract (solids)	5.05	5.60
Reducible sugar	1.25	1.30
Dextrines	3.25	3.55
Protein	0.38	0.36
Acidity as lactic acid	0.12	0.12
Mineral substance	0.14	0.13
Carbonic acid gas by volume	2.9	2.7
p_H value	4.60	4.58
Color Lovibond ½ inch cell	2.7	2.5

The amount of beer which a person must consume to be under the influence of alcohol depends on so many factors that definite amounts cannot be given. Some of the factors are weight and build of the individual, mental stability, previous experience with alcohol, rate of drinking and presence of food in the stomach. A more valuable criterion for alcoholic influence is the amount of alcohol in the blood, which represents the unburned alcohol that is responsible for alcoholic influence. When this amount approaches 0.05 per cent some persons exhibit loss of clearness of intellect and self control that they ordinarily would possess. The smallest amount of 3.2 per cent beer which could produce this condition in a 150 pound (68 Kg.) man is about 12 ounces (0.35 liter).

REFRIGERATION OF TETANUS ANTITOXIN

To the *Editor*:—How long is it safe to refrigerate tetanus antitoxin (1:10 dilution with sterile saline solution) to be used for the ophthalmic test for sensitivity to tetanus antitoxin? At what temperature should it be refrigerated? After how long a period can a second 0.5 cc. of tetanus toxoid be given to be effective.

M.D., Maryland.

ANSWER.—Tetanus antitoxin in a 1:10 dilution with sterile saline solution should be safe to use for at least forty-eight hours if kept in a refrigerator at about 50 F. However, for the ophthalmic test for sensitivity it is best to prepare a fresh solution just before it is applied.

An interval of two to three months between injections of tetanus toxoid is not too long when inoculations are given for active immunization. After primary immunization against tetanus a booster dose of toxoid to raise the antitoxin titer should be effective regardless of the lapse of time.

NUTRITIVE VALUE OF RAW EGGS

To the *Editor*:—Kindly furnish information on the nutritive property of raw eggs. Eggnogs are widely used in hospitals and private practice to "build up patients."

Eugene M. Holden, M.D., Amherst, Mass.

ANSWER.—Whole eggs are considered easily digestible. Studies by M. S. Rose and G. MacLeod (*J. Biol. Chem.* **80**:369, 1923) on the behavior of egg white in the human alimentary tract indicated that the average coefficient of digestibility for the raw egg white was 83 per cent. The coefficient of digestibility for cooked egg white was 86 per cent. When the eggs were beaten the utilization of the protein was improved slightly.

Raw egg white leaves the stomach rapidly and undergoes little digestion there. Egg white appears to contain an antienzyme which causes it to resist tryptic digestion. It is reported that heating destroys the antienzyme. This fact is advanced as a possible reason for the difference in digestibility of raw and cooked egg whites as noted in dogs (Rose, M. S., and Vahlteich, E. M.: *J. Am. Dietet. A.* **14**:593, 1938). Recent work has shown that raw egg white contains a factor which inactivates the vitamin biotin (György, P.; Rose, C. S.; Eakin, R. E.; Snell, E. E., and Williams, R. J.: *Science* **93**:477, 1941). Eggs, both raw and cooked, continue to be regarded as important and valuable foods.

CUTANEOUS MONILIASIS

To the *Editor*:—A 21 year old student nurse was scratched on the forehead by a patient in one of the state mental hospitals in January 1940. Subcutaneous lesions developed about the forehead and eye, which have periodically spread and simultaneously drained small amounts of purulent material. This material has been repeatedly cultured and the responsible organism proved to be a pathogenic strain of Candida albicans. Exhaustive studies have failed to reveal evidence of moniliasis elsewhere in the patient. The lesions are slowly spreading. What therapy would you suggest?

D. M. Ulrich, M.D., Seattle.

ANSWER.—Cutaneous moniliasis is described in modern textbooks of dermatology. In one (Manual of Clinical Mycology, National Research Council, Committee on Medicine, Philadelphia, W. B. Saunders Company, 1944) it is classified in three forms: (1) localized lesions, (2) generalized lesions and (3) monilids. If the dermal infection in the case described is actually caused by the yeast, it falls in class 1 and evidence of infection elsewhere in the body is not needed.

Primary moniliasis seldom affects persons in robust health but usually those who are debilitated. In the case in question, apparently in an otherwise healthy person, it is possible that the lesion is a pyoderma in which Monilia may be present merely as saprophytes. Further attempts should be made to detect other micro-organisms or other causes.

Treatment outlined in textbooks stresses improvement of general health and 1:4,000 potassium permanganate soaks three times a day, followed by application of 1 per cent solution of methylrosaniline chloride. Ammoniated mercury ointment (5 per cent) may be used instead. Fractional roentgen therapy has also been recommended.

ESSENTIAL HEMOGLOBINURIA

To the *Editor*:—A woman aged 26, unmarried, four years ago was drenched in a storm; subsequently she had a severe chill and soon after noticed bloody urine. Since that time she has had recurrent and severe hematuria. She has been studied thoroughly. At one time she had a splenectomy, which did not bring relief. Results of all studies have revealed normal conditions except urinalysis. The diagnosis is essential hemoglobinuria. Has there been any therapeutic measure of recent date, other than repeated transfusions, which might help her? I read an article in which penicillin was used with good results.

M.D., New York.

ANSWER.—It is assumed that the diagnosis of hemoglobinuria is correct and that there is not actual bleeding from the genitourinary tract as implied in the question. Almost all cases of hemoglobinuria can be attributed to some known etiologic agent. These may be found in most medical textbooks.

The treatment of hemoglobinuria should include the removal or avoidance of known etiologic factors. Transfusions are necessary when there has been massive blood destruction; however, in some cases these may be followed by reactions. Supplementary iron should be given. Intercurrent infections, no matter how slight, should be controlled. Recent data lend doubt to the belief that alkali therapy prevents renal damage during hemoglobinuria, and certainly the production of alkalosis is to be avoided. The antihistaminic drugs may be of value in those cases due to allergic causes.

There is no reason to believe that penicillin therapy will be of any benefit in conditions other than the hemoglobinuria caused by syphilis or in certain rare acute or subacute infections due to bacteria which are susceptible to the drug. The paroxysmal cold hemoglobinuria found in certain patients with syphilis may not respond to any form of treatment.

EPILEPSY AND PREGNANCY

To the *Editor*:—A patient who has epilepsy is pregnant. She has not had convulsions since her pregnancy. She had some minor convulsions earlier, but these have been controlled with mephobarbital (mebaral®). What effect has pregnancy on epilepsy and should some other anticonvulsant be used? What effect will mephobarbital have on the baby?

M.D., Massachusetts.

ANSWER.—Pregnancy does not have a uniform effect on epilepsy. Anticonvulsants do not affect the pregnancy or the fetus, and since mephobarbital seems to be effective in controlling seizures it may be continued in the present dosage. If seizures recur, or if the electroencephalogram is interpreted as grossly abnormal, diphenylhydantoin sodium (dilantin sodium®) could be substituted.

BUNDLE BRANCH BLOCK

To the Editor:—There is confusion in the literature concerning the precordial electrocardiographic findings in complete left bundle branch block and complete right bundle branch block. In left bundle branch block the septum is activated from right to left. This should produce in the precordial leads from the right side of the precordium an initial upward deflection followed by a larger downward deflection or an rS pattern. From the left side of the precordium since the initial impulse is traveling away from the electrode there should be an initial downward deflection followed by a predominantly larger upward deflection, or a qR pattern. Contrariwise, in a complete right bundle branch block where the septum is activated from left to right, from the right side of the precordium there should be an initial downward deflection followed in this case by a smaller upward deflection, a Qr pattern or a Qrs pattern; and from the left side of the precordium in a right bundle branch block a small upward deflection followed by a predominantly downward deflection or an rS type of deflection should occur. Textbooks and current literature do not agree on suitable criteria for making such a diagnosis from the precordial leads. Often the limb leads are equivocal and there is dependence on the observations in the precordial leads. What are the current views on this subject?

Harry A. Pinsky, M.D., Camden, N. J.

ANSWER.—It now is generally accepted that the first part of ventricular muscle depolarized during normal activation of the heart is the left side of the ventricular septum. The electromotive force developed during this initial time period has a direction from left to right. Therefore the first deflection seen normally in left-sided chest leads is a small Q wave and in leads from the right precordium or from the cavity of the right ventricle, a small R wave. In left bundle branch system block the activation of the septum occurs in the opposite direction from right to left. Hence an initial q is absent in left precordial leads and no r wave is seen in leads from the right ventricular cavity and in right-sided chest leads. A tiny r seen sometimes in right sided chest leads can be explained by relatively earlier activation of the free wall of the right ventricle. In right bundle branch system block where the initial (septal) activation occurs in the normal order, from left to right, usually a small R and tall R′ is seen in leads taken over the right precordium and a qRs in leads from the left precordium. According to the current view the localization of a bundle branch system block should be based primarily on precordial leads, where the delay of the onset of the so-called intrinsicoid deflection (time interval from beginning of QRS to peak of the tallest upright wave [R, R′ etc.]) is assumed to indicate the delay of activation of either right or left ventricle.

HEMIANOPSIA

To the Editor:—A patient has right homonymous hemianopsia, probably due to cerebral hemorrhage, since she has hypertension. She has been told that there is some type of spectacle which will benefit this condition. What type of spectacle or apparatus was meant, and where might such be available?

Thomas J. Lattotte, M.D., Harlingen, Texas.

ANSWER.—In THE JOURNAL, July 23, 1949, page 1024, Eric Bell Jr., of Cleveland, describes a mirror for patients with hemianopsia. This apparatus consists of a vertical mirror fastened to a spectacle lens in such a way that it reflects objects in the blind part of the field of vision to a seeing part of the field of vision. It probably is of value as a means of attracting the patient's attention to a moving object in his field of vision.

RED PATCHES ON VULVA AND CERVIX

To the Editor:—On the cervix of a patient are two or three round red patches about the size of a grain of wheat. Around the meatus and vulva also there are some red patches. There is leukorrhea, which had not been present until the last month. The discharge has no color. Could it be cancer?

C. L. Peavey, M.D., Salem, W. Va.

ANSWER.—The gross appearance of this lesion is not suggestive of cancer. The patient's age and any history of abnormal bleeding would be information of value in considering the diagnosis. The distribution of the inflammatory lesions suggests a monilial infection, and microscopic examination of scrapings from these areas might well reveal the presence of yeast organisms. Concurrently the patient should be investigated for glycosuria, which is sometimes found in conjunction with vulvovaginitis.

HYPERTENSION IN PHEOCHROMOCYTOMA

To the Editor:—Please send me the latest information on the treatment of hypertension in pheochromocytoma.

Henry T. Sherman, M.D., Valdosta, Ga.

ANSWER.—The hypertension due to pheochromocytoma is treated by excision of the pheochromocytoma. This results in a permanent cure of the hypertension. There is no medical treatment for such hypertension.

SPLENECTOMY FOR THROMBOCYTOPENIC PURPURA

To the Editor:—Kindly advise what effect, if any, would the removal of the spleen have on thrombopenic purpura.

Andrew F. O'Connor, M.D., Berkeley, Calif.

ANSWER.—Splenectomy results in clinical cure in about 70 per cent of cases of true idiopathic thrombocytopenic purpura severe enough to justify this procedure. If the history, physical examination and marrow studies have excluded the allergic, drug idiosyncrasy, myelophthisic and hypoplastic types of thrombocytopenic purpura, which are not benefited by splenectomy, and the rare hereditary form of the disease, and if the megakaryocyte count in the marrow shows a definite thrombocytic hyperplasia and the clot retraction test shows a definite delay or absence of clot retraction, the clinical diagnosis of idiopathic thrombocytopenic purpura is justified. The next problem is the evaluation of the risk of splenectomy versus the risk of medical management with multiple transfusions of fresh (not over six hours old) citrated blood. The majority of cases in children respond to medical management as do some of the cases in young adults, but if the disease is chronic and recurrent or if bleeding from the gums recurs within a few days after the clot retraction time has been brought to normal by two to four transfusions six hours apart, splenectomy with removal of any accessory spleen is indicated. The operation should be performed by a surgeon skilled in this particular operation and should be scheduled a half hour after the last of four transfusions of fresh blood given six hours apart.

The clot retraction time is much the most reliable test in following these patients, as the thrombocyte count is subject to great error.

CADAVER FOR DISSECTION

To the Editor:—Some other physicians and I are interested in obtaining an embalmed cadaver for dissection so that we may improve our knowledge of anatomy. Where can we obtain one? Some biological supply houses in the past had bodies for sale.

V. Warren Swayze, M.D., Muscatine, Iowa.

ANSWER.—We do not know of any biological supply house in the United States that has embalmed human bodies for sale. The laws of most states do not permit such traffic. A summary of the laws in various states is contained in the book "A Survey of the Law Concerning Dead Human Bodies" by Atty. George H. Weinmann, published by the National Research Council, December, 1929.

It is there stated that in Iowa the bodies of persons dying in various public institutions or found dead shall be delivered to the medical college of the state university or to certain other colleges unless the deceased, during his last illness, expressed his desire that his body be otherwise disposed of or his relatives or friends express such desires. These bodies are to be given to medical schools in accordance with rules promulgated by the health department of the state.

The inquiring physician might apply to Dr. W. R. Ingram, professor of anatomy and member of the Administrative Executive Committee of the College of Medicine of the State University of Iowa at Iowa City or to the health department of the state.

ACROPARESTHESIA

To the Editor:—The answer to the query on acroparesthesia in *The Journal*, Dec. 17, 1949, page 1196, seems designed to make an invalid out of anyone with these complaints. I see no reason for believing that acroparesthesia is of other than mechanical origin. Whether the pressure is due to compression of the neural outlet as a result of an old injury or faulty posture or whether it is due to tension on the nerve roots in the brachial plexus caused by faulty posture is of academic interest but does not help the patient. The cure implies that this condition occurs "when from muscular atonia the muscles supporting the shoulder girdle allow these to drop to an abnormally low level." The statement is made that this "is a mechanically produced syndrome rather than one due to trophic or vasomotor changes." I cannot see how this makes it obvious that the treatment is rest. How can rest restore tone to a muscle that has no tone? Such patients do not need rest; they need exercise. Occasionally, in extreme cases, it is necessary to put the patient to bed for a few days, and then light head traction is much more useful than propping the patient up with the arms in a sling. Exercises should be started while the patient is still in bed. These exercises in general should consist of exercises to strengthen the flexor groups, both abdominal and anterior cervical. Definite symptomatic improvement may be expected in the milder cases within three to ten days and complete relief, even in fairly severe cases, in six to ten weeks. The patient must be given detailed instruction in the type of exercise and in the number of times that he is to carry out the exercises. The individual exercise tolerance varies widely. The fact that there may be a concomitant vasomotor and neurotrophic disturbance in this condition, if it has been present for months or years, must not be lost sight of. In these cases, priscoline® (2-benzyl-4,5-imidazoline hydrochloride), one 25 mg. tablet four times a day for the first ten days to two weeks of the treatment, will usually be all that is necessary to combat this complication specifically.

Duncan C. McKeever, M.D., Houston, Texas.

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REMITTANCES should be made by check, draft, registered letter, money or express order. *Currency should not be sent unless the letter is registered.* Stamps in amounts under one dollar are acceptable. Make all checks, etc., payable to "AMERICAN MEDICAL ASSOCIATION."

WARNING: Pay no money to an agent unless he presents a letter showing authority for making collection.

CHANGE OF ADDRESS notice should be received at least 15 days prior to date change is to go into effect, and should state whether change is permanent or temporary. Both old and new address should be given.

WHEN COMMUNICATIONS concern more than one subject—manuscript, news items, reprints, change of address, payment of subscription, membership, information wanted, etc.—correspondents will confer a favor and will secure more prompt attention if they will write on a separate sheet for each subject.

CONTRIBUTORS

EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

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MANUSCRIPTS: Manuscripts should be typewritten, double-spaced, and the original, not the carbon copy, submitted. Carbon copies, or single-spaced manuscripts will not be considered. Footnotes and bibliographies should conform to the style of the Quarterly Cumulative Index Medicus published by the American Medical Association. This requires in the order given: name of author, title of article, name of periodical, with volume, page, month—day of month if weekly—and year. We cannot promise to return unused manuscript, but try to do so in every instance. *Used manuscript is not returned.* Manuscript should not be rolled.

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ANONYMOUS CONTRIBUTIONS, whether for publication or information, or in the way of criticism, are consigned to the waste basket.

NEWS: Our readers are requested to send in items of news, also *marked* copies of newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

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A price list describing the various publications of the Association will be sent on request.

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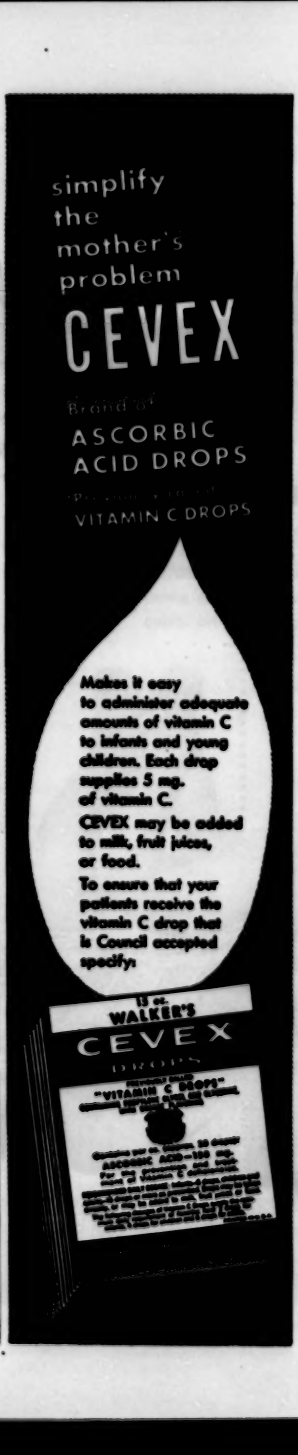
535 N. DEARBORN STREET, CHICAGO 10



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PERSONAL CLASSIFIED ADS

For personal classified advertisement the rate is $5.50 per insertion for 30 words or less; additional words 20c each. For box number instead of personal address, add 35c and count 4 additional words.

SEMI-DISPLAY ANNOUNCEMENTS

SHOULD YOU PREFER TO HAVE YOUR ADvertisement set in bold type and indented (like this paragraph) the rate will be $7.00 for 30 words additional words 25c each.

FREE INSERTIONS

To those who remit for four consecutive insertions of a personal classified ad, we will give free two more insertions, provided the first four did not consummate a deal. Notice for free insertions must be received within two weeks following date of last insertion.

CLASSIFIED ADS ARE PAYABLE IN ADVANCE

COMMERCIAL ANNOUNCEMENTS

Advertisements of manufacturers, dealers, publishers, agencies, etc., and all purely commercial announcements under any caption will be inserted at the rate of $7.50 for 30 words or less; additional words 25c each. No free insertions allowed on commercial announcements. For semi-display, $9.00 for 30 words or less, additional words 30c each. Box number charge same as personal ads.

CLASSIFIED ADVERTISING FORMS CLOSE TUESDAY NOON 11 DAYS PRIOR TO THE DATE OF ISSUE

Journal A.M.A., 535 N. Dearborn St., Chicago 10

NOTICE

Because of the Memorial Day Holiday, classified advertising forms for the June 3 issue will close 12 days prior to date of issue instead of the usual 11 days.

NOTICE

BOOK, MONOGRAPH OR PAPER TO WRITE? Expert staff does complete job for busy doctor or specialist. Box 9282 % AMA.

PACIFIC COAST MEDICAL BUREAU INVITES YOU to visit their offices during the AMA Convention in San Francisco; check our location on West Coast business. Remember the address 1604 Central Tower, San Francisco 3, California. (Agency)

BOOKS

BUSY DOCTORS—ORDER ALL THEIR BOOK REquirements from one source. Send for catalog. 1820 Congress, Chicago 12, Illinois; immediate delivery; postpaid; free Medical Bulletin.

ASSISTANTS WANTED

WANTED—ASSISTANT TO BUSY QUALIFIED NEUrological surgeon in private practice; work will entail morning, in surgery and afternoons in hospital work; salary $500 per month with room and board; should have 1 year surgical training after internship; preferably under 30 years of age; will arrange future training for qualifications if services are satisfactory. Box 9231 B. % AMA.

WANTED—GENERAL PRACTITIONER ASSISTANT; to qualified physician-surgeon; large established medical, surgical, obstetrical practice; Midland-German section Michigan community; excellent opportunity; plan partnership; modern hospital facilities; references. Box 9318 B. % AMA.

WANTED — ANESTHESIOLOGIST; TO JOIN group; plans to move outside to provide to 1st letter; finished fourth yr. course in clinic with basic certificate board helpful. Box 9304 B. % AMA.

WANTED—ASSISTANT; ON ANNUAL SALARY basis; to work general practice and surgery; in 20 bed hospital; located in county seat, southern Oklahoma. Box 9107 B. % AMA.

WANTED—AN ENERGETIC YOUNG MAN; AS AN assistant in general practice; for summer season at seashore; starting about June 15th; $225 per month and full maintenance for single man or apartment for man and wife; must be licensed in New Jersey or have reciprocity; send full information 1st letter. Box 9140 B. % AMA.

ASSISTANT—TO GENERAL PRACTITIONER; RIO Grande Valley; climate moderate; Spanish language desirable, not obligatory; Texas license or state with reciprocity necessary; applicant give full information. Box 9145 B. % AMA.

PHYSICIANS WANTED

PSYCHIATRISTS AND PHYSICIANS INTERESTED in psychiatry; class A school graduates; eligible for Louisiana license; up to 65 years of age; starting salary $500, maintenance, furnished house, paid vacation, retirement plan. For details contact: Superintendent, East Louisiana State Hospital, Jackson, Louisiana. C

(Continued on page 40)

Artist's rendering of entrance to Medical School of the University of Illinois, Chicago, Illinois.

Surgery,
Gynecology and Obstetrics
Reports on

Sulfadiazine

This journal has published thirty-five reports dealing with the use of sulfadiazine in infections of the female generative organs and adnexa, and with other surgical conditions.

SURGERY, GYNECOLOGY and OBSTETRICS *Founded in 1905 by Dr. F. H. Martin, this journal became the property of the American College of Surgeons, after his death and that of his wife. Its circulation of 25,000 copies a month is greater than that of any other surgical journal in America, and one-fifth of these copies goes to countries outside of the United States. A valuable feature of the journal is its publication of the International Abstracts of Surgery.*

LEDERLE LABORATORIES DIVISION AMERICAN CYANAMID COMPANY 30 Rockefeller Plaza, New York 20, N. Y.

AMIGEN

T. M. REG. U. S. PAT. OFF.

Protein Hydrolysate for Parenteral Use of Proved Clinical Value

AMIGEN is an enzymic digest of casein containing all the amino acids needed for protein synthesis. Supplied in solutions with dextrose, it enables the physician to provide protein nutrients parenterally:

1. When the patient is unable to take food by mouth—as in esophageal stricture, carcinoma of the esophagus, stomach or colon, intestinal obstruction or perforation, diverticulitis, pyloric stenosis, severe vomiting.

2. When complete rest of the alimentary tract is desired—as in generalized peritonitis, gastroenteritis, severe diarrhea, bacillary dysentery, ulcerative colitis, convalescence from gastrointestinal surgery, perforating wounds of the abdomen, typhoid fever.

3. When parenteral supplementation of oral food intake is indicated—as in advanced malnutrition, severe burns or injury, preoperative preparation, postoperative care, nephrosis, nephritis, pancreatic fibrosis, prematurity.

We will be pleased to forward the AMIGEN Handbook for Physicians on request.

MEAD JOHNSON & CO.
EVANSVILLE 21, IND., U.S.A.

Tonics and Sedatives

From a recent Vermont State Medical Society News Letter:

PRACTICE FOR SALE
Daytona Beach, Florida

Thriving General Practice—available immediately. Currently grossing around $25,000 a year. Price of $3,500 includes:

a. Modern office . . . low rental . . . excellently located.
b. Secretary and Nurse.
c. Furniture and files.

—C. H. Beecher.

Nothing but the best.

t & s

J. R. Kircher reports on a new discovery:

A few days ago a door-to-door saleslady for a cosmetic concern called. In addition to her numerous selling points, she pointed out that their underarm deodorant cream did not stop perspiration—because it had been shown that by stopping underarm perspiration the harmful wastes normally secreted backed up into the adjacent breast tissue causing cancer of the breast.

t & s

Another contribution from Billie Pile McComb:

PART PLAGIARISM . . .
[By Billie Pile]

Country Doctor—
Dr. Eugene Pile

Dear Grandpa:

We both knew this morning, when I arose, that we would have a guest before the day was through. Some people, when they receive telegrams or phone calls to expect company, rush around preparing for them.

But how do you put your house in order for death? You see, Grandpa, I've never had death come to my own home before, and all those pressing, little everyday things screamed for my attention. The children had to be fed and right at the last minute a dress had to be ironed before going to school could be possible.

The house is always tumbled in the mornings after five chilren and a pup go through it. So if we were to receive this guest the house must be made presentable. Not that the guest would notice but certain beings would have to be notified after the guest arrived.

Then there was that mammoth ironing starring me in the face. If after our guest arrived and we were to make the long trip to Ashton, why then I'd have to leave enough clean clothes to last the children several days.

But one thing I did do first, Grandpa. You remember how I never seemed to get enough starch in your shirts? Well, I washed your favorite one and I think I starched it just like you would want it. It was an odd feeling washing that shirt and knowing it would never be washed again. Along with plenty of starch I squeezed in a little tenderness. I hope you'll notice it.

Since I had to do my housework and couldn't sit with you and wait, I did

(Continued on page 38)

AMISET

T. M. REG. U. S. PAT. OFF.

A practical aid in the administration of Amigen solutions

1. New *air filter* assures sterility of ingoing air.

2. *Plastic dripmeter* permits accurate observation of rate of flow.

3. *Tubing compressor* effectively regulates flow of solution.

4. *Plastic tubing* permits constant observation of infusion fluid.

5. *Plastic needle adapter* simplifies problems of venipuncture.

6. Amiset eliminates the *expense and labor* required to clean ordinary infusion sets.

7. Amiset is *promptly available* and *saves storage space.*

8. Amiset is *sterile* and *free from pyrogens.*

Sterile
Efficient
Convenient

MEAD JOHNSON & CO.
EVANSVILLE 21, IND., U.S.A.

whenever possible...

BREAST FEEDING

as long as possible

or

SIMILAC

so similar to human breast milk that there is no closer

equivalent

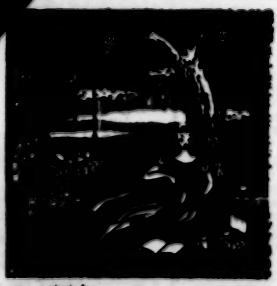
1. SIMPLE: Travelling or at home—*1 can of Similac makes 16 8-oz. bottles of normal formula.*

2. SIMPLE: Even on picnics—all that is needed is Similac powder in bottle and a thermos of warm, previously boiled water.

3. SIMPLE: When a bottle must replace a breast feeding or when the baby needs an extra bottle of the formula, a single Similac feeding is simple to prepare.

AND, AS ALWAYS, Similac, like human breast milk, has a zero curd tension.

1 assured of easily portable, safe milk supply



2 a picnic for mother, a picnic for baby

3 When the nursing mother requires or deserves a respite from routine

prove the acceptance of the

ARMSTRONG IDEA

● The Armstrong X-4 Baby Incubator was designed for hospitals and has been bought by hospitals because of one basic idea. That idea is to meet the need for an economical unit which is—(1) low in first cost by the elimination of unnecessary selling expense and (2) low in operating and maintenance costs, through simple, clean design and easy control.

Todly, over 9,000 Armstrong X-4 Incubators are in use here and in foreign countries. More than 1173 hospitals who have ordered the X-4 have sent repeat orders for over 5100 more—they must have been satisfied. No other incubator at any price can give you such complete assurance of confidence because the *experience of others* is *your guarantee* of satisfaction. When you buy experience-perfected and hospital-proven equipment, such as the Armstrong X-4 Baby Incubator, you'll never miss the trouble you don't have.

If you want to be certain of baby incubators with (1) low first cost (2) complete reliability and (3) simplicity of operation, write for our descriptive bulletin with price.

The Armstrong X-4 Baby Incubator was the first Baby Incubator to merit all three of these "awards."

THE GORDON ARMSTRONG COMPANY, INC.

(Tonics and Sedatives Continued)

a lot of thinking of you. I forgot about your being a troublesome old man at times. I remembered you as you were twenty-five years ago, busy, tall and with a proud military carriage. And impatient, Grandpa. You were always so impatient. Once you made a decision you abhorred waiting.

I chuckled to myself, remembering you on most Monday mornings when you would find the country party line busy. Just at the time you would want to place your drug order or wanted to check some patient's progress. Many a time I've heard you impatiently tell a couple of gabbing farm wives, "Look! Why don't you go do that weekly washing instead of spending the morning talking about it." You always got a clear line. Were you born impatient? Were you impatient to start carving your nitch in a state that was exactly as old as you were?

I know one time you weren't impatient. Remember telling me about the time you first used diphtheria toxin? You found it amusing looking at it in retrospect. You told of how a father of a large family came for you on horseback. He said all of his seven children were sick. Arriving at his isolated homestead you found one of the children had died in the father's absence. You said it must have unhinged his mind a little, for he got his shotgun and told you to get busy and cure the others or else!

Being a very young doctor you were scared sideways, but you knew your only chance was God and the new serum you had read about but never used. So you persuaded the father to ride ten miles to the railroad station, send a wire to Kansas City for them to send you the medicine as soon as possible. You did what you could for the children while waiting. Then when it finally arrived, you administered it according to directions and sat down and hoped tomorrow never came, if it failed.

It wasn't until the next morning when a hearty slap on your back awakened you from the exhausted sleep you had fallen into toward morning, that you realized God, the serum and you had won the battle. The happy father put his shotgun in the corner and was your best press agent ever after.

You met a most desperate need in those early years of Kansas. Your practice had to of a necessity cover a fifty-mile radius. I still remember making lots of your calls with you in your many Maxwells and later Dodges. You'd wear out a car a year. Those mud roads! And your proud spirit. You've kept that right up till the last.

Well our guest has come and you've left with him. I must get ready and meet you at the train and we'll go home to Ashton together.

I can just hear you stomping around impatiently outside the pearly gates. If there's a minute delay in Saint Peter opening them I can hear you say, "Oh the dickens! What on earth's keeping him?" And I can also hear a soft, gentle voice from inside chiding you, "Geanie, Geanie, don't be so impatient."—With love, Billie McComb.

(Continued on page 40)

Ann Woodward
Director

"The Thinker" Takes Action

"YES, I've been *thinking* about getting another physician to come in and take over part of the work, but my immediate schedule is so pressing I don't have time to do anything about it."

The dilemma so described by a physician friend at a recent Southern convention is unfortunately a common one.

Happily, there IS a way out for doctors in this dilemma, as our friend of the Southern convention now recognizes, to his expressed satisfaction. . .

Of course, the Woodward Bureau cannot find the answer to *every* personnel need in *every* clinic, hospital or physician's office. But this we can assure you: As soon as you take the easy, uncomplicated action named below, you will have eliminated at least two-thirds of the effort you faced in making a thorough search for the right physician *single-handed!* Simply

WRITE, WIRE OR PHONE

WOODWARD *Medical Personnel Bureau*
NINTH FLOOR • 185 N. WABASH • CHICAGO 1
OUR FIFTY-FOURTH YEAR

LUMETRON Hemoglobin and Glucose Meter Mod. 15

A photoelectric instrument for exact determination of

Hemoglobin
Blood Glucose
Urine Glucose

- Accurate, compact, fast, easy to operate
- Line-operated, no batteries to replace
- Electronically stabilized, no needle drift
- Alkaline hemoglobin method, no waiting
- Truly reliable glucose readings from fingertip blood, simplified urine glucose test
- Fully equipped, with 3 calibration cards, pipette, 2 glass cells $98.-

Write for Bulletin No. 500

See also Bull. No. 495 on LUMETRON Colorimeter for hemoglobin, glucose, urea nitrogen, N.P.N., uric acid, and 60 other clinical determinations.

PHOTOVOLT CORP.
95 Madison Ave. New York 16 N. Y.

Photographs courtesy of Louis H. Block, M. D., Chicago

a. Ulcerative amebiasis during Diodoquin therapy. In this patient with severe hemorrhage, edema and necrosis, the ulcers show healing, with many scars. No active lesions are seen.

b. Three months later, after continuing Diodoquin therapy, extensive scarring indicates healing. Inflammation is further reduced and only superficial areas of inflammation remain.

AMEBIASIS: "Diodoquin is probably the least toxic of the drugs and contains the most iodine."[1] "Diodoquin now appears to us to be the drug of choice [for outpatients] because of its effectiveness and because it is tolerated well by most patients."[2]

In acute or latent forms of amebiasis, Diodoquin® (diiodohydroxyquinoline) the potent amebacide, may be administered in large dosage over prolonged periods. Diodoquin contains 63.9 per cent of iodine . . . is tasteless . . . relatively nontoxic . . . orally administered.

1. Johnson, S. K.: Mississippi Doctor 27:69 (July) 1949.
2. Merritt, W.: J. Florida M. A. 35:351 (Dec.) 1948.

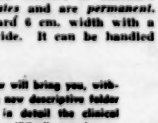
RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

MANY CHOOSE THE
VISO-CARDIETTE

ON ITS
RECORD

The confidence that the new owner of a Viso-Cardiette *wants* to feel in his equipment comes first from knowledge of Sanborn Company's *25-year experience* in electrocardiograph design and manufacture. While this background is generally sufficient, further assurance is gained from the Viso-Cardiette record, a record which is not only the "Viso's" three-year reputation as a simplified and fine appearing "direct writer" but also the record that has helped establish that reputation—the "Viso" 'cardiogram.

This is the 'cardiogram on which over six thousand "Viso" users can *depend*, because the "Viso" meets all A. M. A. requirements. And doctors *like* to use "Viso" 'cardiograms because of their adherence to *established standards* of cardiography.



"Viso" records are *inkless*, in standard *rectangular coordinates* and are *permanent*. The paper is standard 6 cm. width with a ruled area 5 cm. wide. It can be handled freely, filed easily.

The coupon below will bring you, without obligation, a new descriptive folder which describes in detail the clinical advantages of the "Viso" record.

SANBORN CO

Please send me without obligation new descriptive Viso-Cardiette Folder

Name.....

Street.....

City & State.....

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(Tonics and Sedatives Continued)

From *Geriatrics*, March-April, 1950:

"Examination on hospital admission showed a man physically well preserved for his years, with blood pressure 165/92, retinal arteries with a slight amount of bending, and arteriosclerotic plaques in the abdominal aorta. . . ."—Peter F. Lansing.

X-ray eyes?

t & s

Passed on by Robert C. Moehlig:

SANTA'S GIFT TO THE LADY PAST FIFTY

Dear Ladies, if I could be Santa Claus
To you sufferings sisters of menopause,
I'd dump those invaluable gifts at your door—
The gifts you have lost, that you cherished of yore—
I'd deliver to you all that maidenly vigor
That goes along with a fourteen-size "figger."
Restore the old color that once graced your hair
Before rinses and bleaches took residence there;
I'd bring back the contours with which youth is gifted
So that things now suspended need not be uplifted;
I'd draw in your stomachs and smooth down your backs
'Til you'd be a dream walking in close fitting slacks;
I'd remove all the wrinkles, leave only one chin,
So you wouldn't spend hours rubbing grease on your skin.
You wouldn't have flashes or queer dizzy spells,
You wouldn't hear noises or ringing of bells;
No searching the closets to find all your clothes,
No hunting for spectacles right on your nose;
No shots in the arm or the hip or the fanny
By a doctor who thinks you a nervous old granny;
Remembering that book titled, "All Passion Spent"
And asking yourself where the heck passion went,
And hating your man when he tries to contrive
To talk to that chick in Chanel No. 5.
Yes, if I were Santa, these things I'd deliver:
The romance of Cupid with his little quiver,
The lift of the heart when the wolves start to whistle,
The joys of the spirit as light as a thistle.
But alas, I'm not Santa! I'm simply just me,
The matronest matron you ever did see.
I wish I were there to tell symptoms I've got,
But I'm due at the doctor's right now for a shot.

t & s

From the Cleveland *Courier*:

Dr. ——— administered an appendectomy on Miss ——— at clinic in Clarkesville Tuesday. She works at Smith's Soda Shop.—George M. Tolhurst.

Counter approach?

(Continued from page 34)

WANTED—PATHOLOGIST; WITH SOME EXPERIMENTAL experience; for research in connection with pharmacological investigating and to conduct experimental pathological research; excellent working conditions; permanent position with leading pharmaceutical company in the Mid-West. Box 9322 C, % AMA. C

GENERAL PRACTITIONER—WITH TRAINING AND experience in obstetrics or general medicine; starting salary $6000; housing available; prepaid medical group in small community near Washington, DC. Apply: Greenbelt Health Association, 30-C Ridge Road, Greenbelt, Maryland. C

WANTED—DOCTOR FOR EXCELLENT GIRLS' CAMP; in northern Wisconsin; woman preferred; season 2 months beginning June 24th; all expenses plus salary; no accommodations for family. Write: N. Wasserman, 4025 Merrill Avenue, Chicago, Illinois. DOrchester 3-4847. C

WANTED—PATHOLOGIST; INTERESTED IN teaching and research; by state hospital 4; cash salary and family maintenance; accredited hospital offers advanced course for psychiatric residents; beginning July; includes university postgraduate course, guest lectures, training in modern therapeutic procedures and supervised work in mental hygiene clinics; superior library facilities; initial salary $4200. Box 9326 C, % AMA. C

WANTED—SENIOR PHYSICIAN; COUNTY TUBERculosis sanatorium; training in tuberculosis desirable but not essential; annual salary $1440 plus maintenance for self and wife; grade A American or Canadian medical school graduate; send snapshot and full particulars of qualifications. Box 9327 C, % AMA. C

EAR, NOSE, THROAT SPECIALIST—IN WELL-equipped, established office; in city, population 40,000; doctor retiring because of ill health. Dr. J. E. McAskill, 508 Woolworth Building, Watertown, New York. C

EXCELLENT OPPORTUNITY—FOR SOMEONE WANTing to do general practice and surgery; town 800; in Texas Panhandle; "wet and cattle county. Write: Dr. J. J. Davis, Higgins, Texas. C

NEW MEXICO WANTS DIRECTOR TUBERCULOSIS control division department of public health; write for application blank and details before June 10th. Merit System Council, Box 939, Santa Fe, New Mexico. C

WANTED—GENERAL PRACTITIONER; RHODES, Iowa; in heart of rich agricultural area; has no doctor; financing and housing available; good opportunity. Write: R. G. Stoeber, Chairman, Doctor Procurement Committee. C

OPENING—ON STAFF OF PRIVATE NP HOSPITAL, with opportunity to establish own practice; general or psychiatric; pleasant working conditions; excellent facilities; capable associates. Mercer Sanitarium, Mercer, Pennsylvania. C

WANTED—GENERAL PRACTITIONER; TO WORK full-time salary for patients in tuberculosis clinic and hospital. Apply: Surgeon, Chanute Air Force Base, Illinois. C

WANTED—DOCTOR FOR EXCLUSIVE BOYS' CAMP; in northern Wisconsin; for summer season beginning June 24th; all expenses plus salary; no accommodations for family. Write: N. Wasserman, 4025 Merrill Avenue, Chicago, Illinois. DOrchester 3-4847. C

HEALTH OFFICER—WELD COUNTY HEALTH DEpartment; $7200-$8200; MPH required; entrance salary depends on experience; staff of 200; field training center; population 63,400. Dr. Ella Mead, Acting Director, Greeley, Colorado. C

WANTED—FULL-TIME HEALTH OFFICERS; GOOD location; progressive program; must be eligible for licensure; starting salary $7200. Vanted: O. F. Mathews, MD, Commissioner, State Health Department, Oklahoma City, Oklahoma.

WANTED—GENERAL PRACTITIONER; TO TAKE over thriving practice in small town; in central Ohio; home and office combination serves large area; excellent income. Box 9315 C, % AMA.

WANTED—YOUNG PHYSICIAN; AS ASSOCIATE IN busy established medical and surgical practice; in private hospital and clinic; opportunity for partnership; expansion of group and time off for postgraduate work; salary and commission. Box 9326 C, % AMA.

WANTED—YOUNG INTERNIST; FOR CLINIC; Board requirements not necessary; 2 thriving hospitals in medium sized town in mid-west; good starting salary; percentage after 1 year if satisfactory. Box 9310 C, % AMA.

NEEDED—ONE OR TWO DOCTORS; IN AN AREA with strong Norwegian and German population; excellent location available with interesting rural cooperation; graduates from 38 European schools can now apply for licensure in Wisconsin. Box 9308 C, % AMA.

WANTED—KENT MAN; TO TAKE OLD ESTABlished practice; an retiring; equipment for sale; town of 30,000; in Missouri; X-ray and clinical laboratories and 2 good hospitals. Box 9303 C, % AMA.

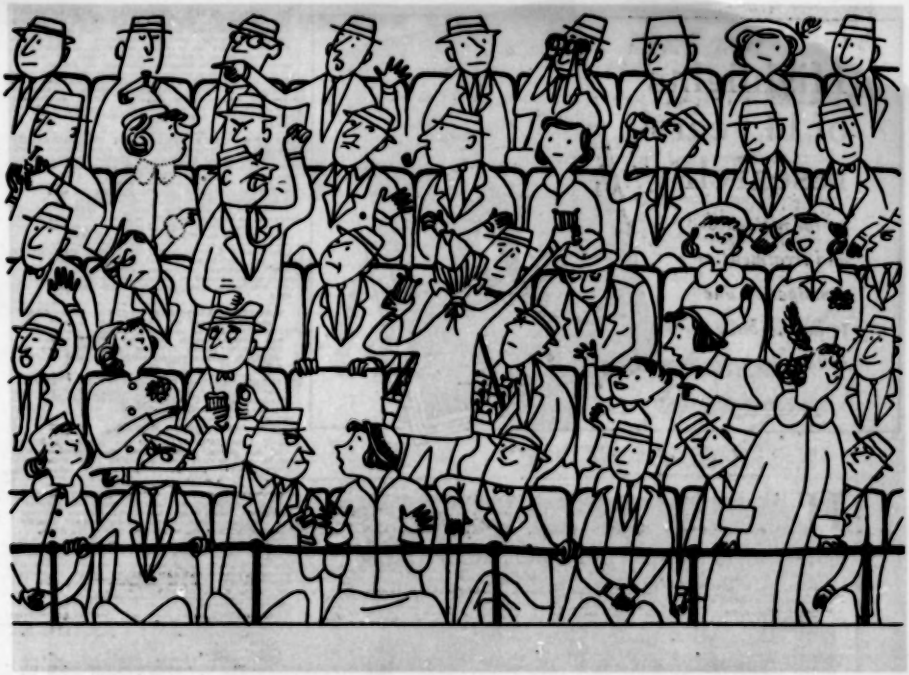
SURGEON—WISHES ASSOCIATE; TO ASSIST IN surgery and do general practice; communities built; 4 room modern apartment available; Mid-West. Box 9303 C, % AMA.

WANTED—A YOUNG GENERAL PRACTITIONER; prosperous farming community in the shade tobacco belt of North Florida; 12 miles modern county hospital; present physician semi-retired. Box 9343 C, % AMA.

HEALTH OFFICERS WANTED—YOUNG PHYSIcians desired; graduate training in public health desirable but not essential; must be licensed or eligible for license to practice in Virginia; salaries; junior health officers $3071-$3822; health officers with training $7200-$8883; car allowances and official expenses in addition to salary; advancement opportunities; appointee gets full maintenance for single man. Write: The State Department of Health, Richmond 19, Virginia. C

WANTED—ENT SPECIALIST; ABLE TO DO REfraction; also ophthalmologist who can do tonsillectomies; for partnership in established clinic; $12,000 and up 1st year. Box 9401 C, % AMA.

(Continued on page 42)



You could fill a bleacher section...

with all of the patients who represent each of the many conditions for which short-acting NEMBUTAL is effective

Have you tried short-acting NEMBUTAL for amnesia in childbirth? In allergy? In cardiovascular disorders? These are but a few of NEMBUTAL's 44 clinical uses reviewed in over 500 published papers. Perhaps some of these uses would be valuable in your practice.

Adjusted doses of short-acting NEMBUTAL can produce any degree of cerebral depression—from mild sedation to deep hypnosis. Small dosage—about *half* that of certain other barbiturates—means less drug to be inactivated, shorter duration of effect, reduced possibility of barbiturate hangover, wider margin of safety and economy to the patient.

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(Continued from page 40)

WANTED — STAFF PHYSICIAN; APPOINTMENT starting July 1, 1950; 300 bed approved tuberculosis hospital; affiliated with medical school of Western Reserve University; previous experience in tuberculosis desirable; salary up to $7500 depending on experience; 3 bedroom house available; nominal charge for maintenance. Sunny Acres Hospital, Cleveland 22, Ohio. C

WANTED — STAFF PHYSICIAN; STATE MENTAL hospital; in Pacific Northwest; graduate American or Canadian medical school; house and family maintenance plus starting salary of $5340 if no psychiatric experience, $6180 with psychiatric experience. Box 9298 C. % AMA.

OBSTETRICS GYNECOLOGY PRECEPTORSHIP available; with Board diplomate; main interest should be obstetrics with minimum 15 months training; salary 1st year; percentage 2nd; excellent opportunity permanent association; eastern city. Box 9410 C. % AMA.

PATHOLOGIST—FOR APPOINTMENT AS CHIEF OF department; 200 bed general hospital +; in city of 30,000; not far from New York City; active educational program in conjunction with medical school; young man eligible for Boards acceptable; fine opportunity; best equipment and facilities. Box 9417 C. % AMA.

ASSISTANT RADIOLOGIST — RECENT DIPLOMATE or one eligible for Boards; 400 bed hospital +; located in southern metropolis; salary $6500-$10,000 per year; submit resume of training and professional experience and recent photograph; immediate. Box 9475 C. % AMA.

WANTED — ASSOCIATE; YOUNG MAN COMpleting training; for medicine and 1 part lab specialty; salaried (equity ownership); research minded and personal outlook 1st time; definite permanent arrangement; salary 1st year, open. Consideration on ability to assume responsibility. Box 9480 C. %. AMA.

WANTED IMMEDIATELY — GENERAL PRACTItioner; part-time position on industrial staff; northern Michigan; excellent opportunity private practice; good hospitals, office furnished; give race; training, telephone number to discuss details. Write: Chief of Staff, 129 Calumet Avenue, Calumet, Michigan. C

KENT ASSOCIATE WANTED—BY BOARD INTERNist and general surgeon; small clinic; southern Wisconsin; well located; good industrial, farm, resort area; salary guarantee plus percentage leading to partnership. Box 9473 C. % AMA.

OPENING — FOR PHYSICIAN INTENDING CAreer in anesthesiology; progressive established company, Rocky Mount, North Carolina; graduate medical school and not over 35 years of age; submit detailed qualifications in 1st letter. Box 9487 C. % AMA.

WANTED NOW—YOUNG PHYSICIAN; GRADE A medical school graduate with 3 or 4 years training in internal medicine; for group association; private hospital, western Pennsylvania; give complete details in answer; requests confidential; answers returned if desired. Box 9471 C. % AMA.

INTERNIST WANTED — FOR CALIFORNIA GROUP established 12 years; under 40; certified or eligible; state principal sub-interest; salary at 1st, partnership soon; recreational facilities and geographical location favorable. Box 9465 C. % AMA.

DOCTOR—1500 PEOPLE NEED YOU; OFFICE rent free; will remodel to suit; low taxes; rural residing community; ethical, business women's Colorado service. For further information write: Elizabeth Cockrell, Chamber of Commerce, Elizabeth, Colorado.

WANTED—KENT MAN; MUST BE CERTIFIED OR equivalent training; to take over large 15 year established practice; immediately or by July 1st; town approximately 80,000; office fully equipped; terms to suit. Write: M. C. Snook, MD, Hagerstown, Maryland. C

KENT RESIDENT—40 BED HOSPITAL +; APPROVED vacancies July, 1950 and January, 1951; superior opportunity for graduate of class A colleges and hospital; full maintenance, interview preferred. The Harlem Eye and Ear Hospital, 2009 Lexington Ave., New York 35, New York. C

WANTED—HOUSE PHYSICIANS; 200 BED GENeral hospital; salary $200 per month; apartments available for married men; graduates of approved 12 months only. Columbus City Hospital, Columbus, Georgia. C

VERY ATTRACTIVE RURAL PRACTICE; FOR GENeral practitioner; central Illinois; immediate action if interested. Box 9491 C. % AMA.

WANTED — PHYSICIAN; BY JULY; MINIMUM 1 year surgery; to assist A&S in eastern North Carolina; begin $600 mo; early partnership to right man. W. A. Hoover, MD, Burgaw, North Carolina. C

TWO PHYSICIANS — PREFERABLY WITH FIVE years experience; serve community 10,000; 8 of 9 doctors retiring soon; 12 miles to nearest hospitals; rural ambulance service. Rumney Drug Company, Inc., Mt. Holly, North Carolina. C

GENERAL PRACTITIONER—WELL QUALIFIED; for staff of 6 5 man group clinic; $10,000 first consultation, salary basis of 70%; send professional and photo. Box 9488 C. % AMA.

MID-WESTERN CLINIC—SEEKING YOUNG DERMAtologist; for department of dermatology and syphilology; Board man preferred but physician with 2 years approved training will be considered to be our complete full psychiatrist at clinic; this position to open immediately. Box 9426 C. % AMA.

WANTED—ASSISTANT PHYSICIANS; TENNESsee state hospitals; need to graduate of grade A school; in early intended specialty; $5400 plus full family maintenance; vacation of 30 days; attractive and liberally fringed; for further details write: Dr. Stanley Jones, Commissioner of Institutions, Cordell Hull Building, Nashville 3, Tennessee. C

WANTED—RENT OR OPHTHALMOLOGIST; ALSO pediatrician; for well established clinic; both specialties unopposed; finest location in city; report and qualified men should make from $11,000-$15,000 annually; southern city. Box 9446 C. % AMA.

(Continued on page 44)

Highlights of 14 years' research

on the incidence and treatment of constipation due to lack of bulk in the diet

HERE is a brief summary of twenty-two separate research studies made at five different universities to disclose further scientific facts about bran — and its use in the treatment and prevention of constipation due to lack of bulk in the diet.

While reprints of any or all of these twenty-two papers are available to doctors who request them, this summary, prepared under the supervision of Dr. Carl W. Lindow, Research Director of the Kellogg Company, is for the use of physicians who may lack the time to read the original reports.

A complete bibliography of the original papers is included in this booklet.

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Model MB, Type 1 Unit, at right, cuspidor at left of chair.

(Continued from page 42)

WANTED—ASSISTANT PHYSICIAN; SALARY RANGE $4000-$4800; residents in psychiatry, salary range $2920-$3504; large eastern state mental hospital; approved; active teaching program; training for American Board. Box 9424 C, % AMA.

WANTED—PHYSICIANS; FULL-TIME; FOR VACANcies in Ohio and Indiana; on medical staff of large eastern railroad; permanent; class A graduates; under 45; salary $5040 per annum and advancement. Box 9122 C, % AMA.

WANTED—PHYSICIAN; WITH PENNSYLVANIA license; for full-time institutional work; excellent professional facilities; living quarters for family optional. Box 9420 C, % AMA.

WANTED — HOUSE PHYSICIANS; JUNE 15, 1939 Belmont Hospital, 4650 West Melrose, Chicago 41, Illinois. C

WANTED—INTERNIST; DIPLOMATE PREFERRED, to associate with group; Mayo Clinic trained surgeon in southern Minnesota city. Box 9429 C, % AMA.

WANTED—COMBINATION RADIOLOGIST AND PAthologist; Board man not required; to take full charge of large laboratory; Los Angeles, California; top salary. Box 9120 C, % AMA.

OBSTETRICIAN—FOR STAFF OF GROUP PRACtice clinic serving membership of 10,000; head of department has American Boards, must have Boards or qualify; study basis; 1 month vacation per year; beginning salary $5000; annual salary increases of $500 to a maximum of $11,000 per annum; comprehensive retirement plan. Write: Executive Director, Group Health Association, 1629 Vermont Avenue, N.W., Washington 9, District of Columbia. C

WANTED—A YOUNG GENERAL PRACTITIONER; interested in physical medicine and also in developing rural medicine; to act as medical director of a 50 bed hospital and sanatorium; 20 beds of which are reserved for tuberculous cases, the other 30 to chronic diseases including arthritics and cardiacs; full equipment in physiotherapy is being installed; physician will keep certain office hours for outpatients as well as make out calls; Uplands is located on the Cumberland Plateau near the newly opened modern medical center in Crossville, Tennessee and the association with doctor diplomats in their specialties will establish a good high school and church and community association in our small but enterprising village. J. P. Meisgeier, Superintendent, Uplands Sanatorium, Pleasant Hill, Tennessee. C

GENERAL PRACTITIONER — FOR STAFF OF group practice clinic; serving membership of 10,000; rapid growth is in opening stage; hospital salary to add to staff; head of department and many others on staff have American Boards; prefer man with 2 or 3 years rotating internship or equivalent; study basis; 1 month vacation per year; beginning salary $5700; annual salary increases of $300 to a maximum of $10,400 per year; comprehensive retirement plan. Write: Executive Director, Group Health Association, 1629 Vermont Avenue, N.W., Washington, District of Columbia. C

WANTED—TWO YOUNG MEN; FOR GROUP PRACtice; internist, Board eligible, thoroughly trained in gastroenterology; general practitioner, at least 2 years internship, special emphasis obstetrics; excellent salaries open. M. C. Hankins, Jr., MD, Hankins Clinic Hospital, Searcy, Arkansas. C

PATHOLOGIST — SOUTHERN HOSPITAL AND clinic; has opening for pathologist in charge of laboratory and blood bank; excellent opportunity with good salary; located in east central part of northeastern North Carolina. Box 9301 C, % AMA.

WANTED—RESIDENT HOUSE PHYSICIAN; MALE or female; licensed to practice in Pennsylvania or eligible for reciprocity; 292 bed general hospital. Apply Jane M. Byrd, Administrator, Butler County Memorial Hospital, Butler, Pennsylvania. C

WANTED — INTERNIST; TO JOIN CLINIC IN Ohio; must be qualified by American Board of Internal Medicine; to associate with certified Mayo trained staff. Box 9372 C, % AMA.

PARASITOLOGIST—BRITISH QUALIFIED; LABORAtory; field hospital and dispensary for epidemiology; investigation and control and general practice; U.S. industrial company in British Guiana; regular leave; furnished living quarters at nominal cost; 3 year contract; starting salary £1500 annual for fully qualified man; state background and date available. Box 9358 C, % AMA.

WANTED IN JUNE—MEDICAL DIRECTOR; FOR Frontier Nursing Service in Kentucky mountains; rural hospital with X-ray, laboratory facilities; salary, modern furnished house, [illegible]; leave granted; AMA standards, good health required. Address Mrs. Brokbridge, Wendover, Leslie County, Kentucky. C

WANTED—SUPERINTENDENT FOR CREDITED nurse's training school connected with general hospital averaging 60 patients; good salary, room and board furnished. Write: Dr. W. D. James, Hamlet, North Carolina. C

RENT ASSOCIATE WANTED—BY WELL ESTABlished California group; ophthalmological and otolaryngological [illegible] salary to begin, [illegible] Address Box 9307 C, % AMA.

WANTED—RENT MAN OR OPHTHALMOLOGIST, capable of doing refractions; for association in clinic in busy Wisconsin area. Box 9323 C, % AMA.

PHYSICIAN — FOR $10,000 CASH PRACTICE; IN beautiful rolling country with mild climate; 95% office and hospital work; home with swimming pool within walking distance; metropolitan area with new medical school center; 1 hour's drive away; better if you have some surgical training; Mid-South. Box 9305 C, % AMA.

WANTED—YOUNG BOARD RADIOLOGIST; large private and hospital practice; in corporation city; good salary by 1 year, partnership if satisfactory; state complete qualifications in 1st letter. Box 9312 C, % AMA.

(Continued on page 46)

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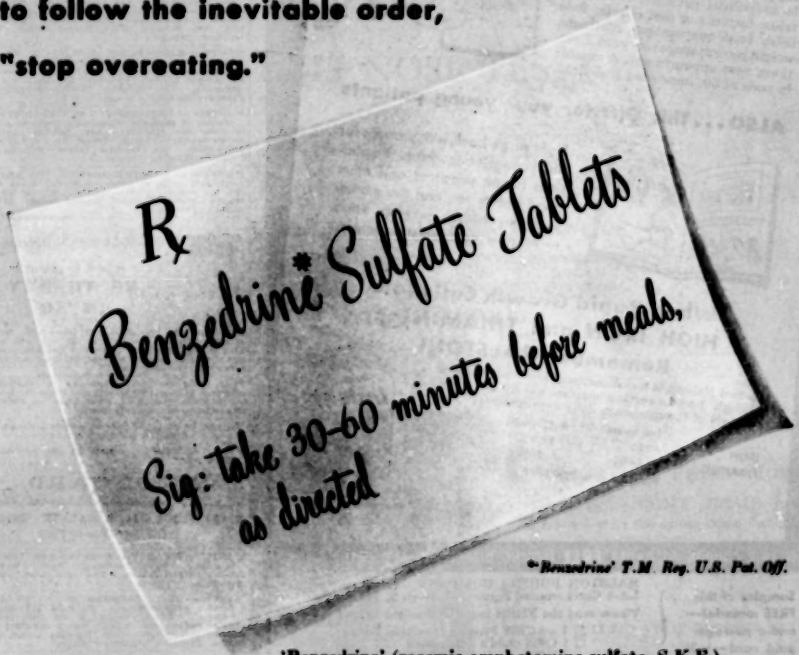

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(Continued from page 44)

WANTED—RADIOLOGIST; DIPLOMATE OF AMERican Board of Radiology, eligible for certification; for group, private office and hospital affiliation; starting salary open; mid-west city; curious suspend; state age, health, experience, availability. Box 3398 C, % AMA. C

UNOPPOSED PRACTICE—SOUTH GEORGIA: county seat; formerly 2 physicians; 5 rural highways, drugstore, industries; 7500 citizens service; 30 minutes to hospital, modified man eligible; selling on reasonable terms for qualification. Box 3328 C, % AMA. C

MEDICAL OFFICERS WANTED—FOR GLENN DALE Hospital, a 700 tuberculosis sanatorium for the District of Columbia; salary range from $5400 to $6400 per annum; sick leave, annual leave and retirement benefits; 1 year experience in tuberculosis required. Address inquiry: Superintendent, Glenn Dale Hospital, Glenn Dale, Maryland. C

WANTED—PATHOLOGIST; DIPLOMATE; TO DIrect laboratory 20 man clinic operating own hospital; arrangements if particularly well qualified in surgery; clinical procedures over 15,000 monthly. Pacific Northwest. 520, Bureaus Larson, Medical Bureau, Palmolive Building, Chicago. C

WANTED—RADIOLOGIST; DIPLOMATE OR ELIGIble; to become associated with small group specializing in radiology; hospital and private practice; starting salary around $15,000; permitted private practice; mid-western metropolis. 520, Bureaus Larson, Medical Bureau, Palmolive Building, Chicago. C

WANTED — OBSTETRICIAN-GYNECOLOGIST; FOR position of instructor or assistant professor; preferably one who has completed formal training, desirous of further experience; duties, clinical, teaching and research; $4000-$7500. 504, Bureaus Larson, Medical Bureau, Palmolive Building, Chicago. C

WANTED — ANESTHESIOLOGIST; TO HEAD DEpartment; male or female; preferably Board eligible; 300 bed eastern general hospital; pay $30,000 and about $15,000; D1208. Woodward Medical Bureau, 185 North Wabash, Chicago. C

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WANTED—YOUNG PHYSICIANS; FOR INDUSTRY, hospitals, radiology, pathology, student health, etc. Brown's Medical Bureau, 7 East 42nd Street, New York, New York. C

WANTED—YOUNG PATHOLOGIST; TO BECOME ASsociated with pathologist, diplomate and director of department; voluntary hospital of 500 beds; residential town of 50,000; short distance from 2 regional medical centers; $7500-$10,000 to 20%. Bureaus Larson, Medical Bureau, Palmolive Building, Chicago. C

WANTED—DERMATOLOGIST; TO BECOME ASSOCIated with diplomate of specialty 20 man clinic; preferably the majority American Board men; salary 1st year, full partnership after 3 years; $15-16,000. 518, Bureaus Larson, Medical Bureau, Palmolive Building, Chicago. C

UROLOGIST — CERTIFIED OR ELIGIBLE; ASSOciate and established 20 man group most of them are certified; rapidly expanding college city 75,000; substantial financial arrangement; D1207. Woodward Medical Bureau, 185 North Wabash, Chicago. C

WANTED—YOUNG GENERAL PRACTITIONER; TO become associated with 11 man clinic; opportunity for obtaining valuable experience; delightful city of 250,000; Southwest. 511, Bureaus Larson, Medical Bureau, Palmolive Building, Chicago. C

INDUSTRIAL PHYSICIAN—CALIFORNIA; personally conducted on their surgeon; salary with partnership. Confidential. Medical Personnel Agency, 510 West Sixth, Los Angeles 14, California. C

WANTED—OPHTHALMOLOGIST; QUALIFIED IN eye surgery; to head department, 25 man clinic; excellent hospital and clinical facilities; salary open; of 40,000; Northwest; $15,000-$10,000. 512, Bureaus Larson, Medical Bureau, Palmolive Building, Chicago. C

PEDIATRICIAN — WANTED BY 6 MAN GROUP situated in new clinic building; located in southwest all city 300,000; requires one certified or immediately eligible; short probationary period followed by percentage with starting account of $10,000; D1204. Woodward Medical Bureau, 185 North Wabash, Chicago. C

MEDICAL DIRECTOR—135 BED HOSPITAL; ALASka; $9500. New York Medical Exchange, 640 Fifth Avenue, New York, New York. Patricia Edgerly, Director. No registration fee. C

(Continued on page 48)

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(Continued from page 46)

WANTED—PHYSICIAN WITH GRADUATE TRAINING in industrial medicine or internist to direct industrial medicine division of large insurance company; duties consist of serving as consultant to various companies; key appointment offering excellent future; headquarters, eastern metropolis; salary dependent upon qualifications; minimum $10,000. 513, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

WANTED—ANESTHESIOLOGIST; DIPLOMATE OR eligible; to establish and direct department, voluntary hospital, 200 bed, general; private practice basis; town of 75,000; located in winter resort area of Pacific Northwest. 514, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

EXCELLENT CLINIC—AVERAGING 130 PATIENTS daily; in Pacific Northwest city; requires qualified general physician for office in neighboring town; good salary, rapid increase; partnership potential; carefully investigated; highly recommended; D1471, Woodward Medical Bureau, 185 North Wabash, Chicago. C

WANTED—ORTHOPEDIC SURGEON; DIPLOMATE or eligible for certification, to become associated with department of surgery, long established private practice group; salary 1st year followed by full partnership; California. 515, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

SURGEON—PREFERABLY DIPLOMATE; FOR central California group headed by Board surgeon; general group with 2 associates; Pacific Coast Medical Bureau, Agency, 1402-1412 Central Tower, San Francisco 2, California. C

WANTED—RADIOLOGIST; DIPLOMATE; TO SUCceed director associated with teaching hospital for many years; newly equipped department housed in new wing; opportunity of faculty appointment; salary or percentage averaging $18,000-$20,000; automatic increases; university medical center. 516, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

GENERAL PRACTITIONER — ASSOCIATE WITH certified internist also clinical professor medical school in very active private practice near Chicago; salary plus percentage will equal about $7500 initially; D1468, Woodward Medical Bureau, 185 North Wabash, Chicago. C

WANTED—ASSOCIATE; BY GENERAL PRACTItioner; considerable surgery; advantageous if especially trained in obstetrics or internal medicine; $7200-$10,000 1st year followed by full partnership; town of 40,000 in Michigan. 517, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

THORACIC SURGEON—HOSPITAL; ALASKA; $12,000. New York Medical Exchange, 280 Fifth Avenue, New York, New York. Patricia Edgerly, Director. No registration fee C

WANTED—UROLOGIST; TO BECOME ASSOCIATED with 29 man clinic; diplomate or American Board eligibility required; should be particularly well trained in transurethral type of resection; university city of 500,000; Southwest. 518, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

WANTED—FOR EXCELLENT FOREIGN APPOINTment with large American company; 2 well trained general practitioners and, also 1 obstetric-gynecologist fully approved hospital service; all departments headed by diplomates; excellent staff of 23 doctors; fine eight operational facilities; no income tax; transportation for furniture and family; opportunities for specialization; 1 year contract; substantial salary during home; requires personal interview; must be class A and personable; D1473, Woodward Medical Bureau, 185 North Wabash, Chicago. C

WANTED—PSYCHIATRIST; OF EXCEPTIONALLY high calibre and ability; should be interested in neurology; great opportunity offering income commensurate with training; California. 519, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

INDUSTRIAL PHYSICIAN—CALIFORNIA; ASSOciate established group in excellent location; minor surgery; start $500. Continental Medical Bureau, Agency, 310 West Sixth, Los Angeles 14, California. C

WANTED—ASSISTANT; BY INTERNIST, DIPLOmate, American Board, on faculty university medical school; busy private practice; opportunity early partnership; university medical center; Middle West. 520, Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

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(Continued on page 50)

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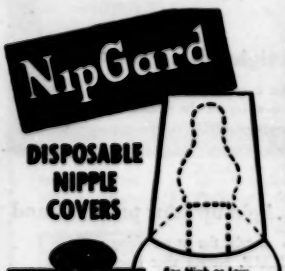


For High or Low Pressure methods of sterilization

NipGards completely cover the nipple and neck of the infant's nursing bottle. Hospital benefits are:

- Quickly applied, save nurse's time.
- Hold firmly in place, anchored by special tabs. Do not jar off or require rehandling.
- No breakage. No washing. No identification strips or tags to apply.
- Space provided on covers for writing identification and formula data.

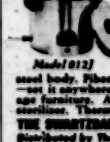
NipGard Nipple Covers are designed to meet modern health codes. Now used by many hospitals requiring terminal sterilization. Professional samples on request.

PAT. PEND.

THE QUICAP COMPANY, INC.
441 Lexington Avenue (Dept. 6-52) New York 17, N. Y.

The most efficient easy portable fly of compact. Capacity for a complete treatment.

● This new Ideal Electric Compress Heater makes possible complete hot pack treatment at the bedside, eliminating repeated trips or removal of patient. Delivers "dry moist" packs within a few seconds. Easy accurate control of temperature. Safe, dependable. Thoroughly tested.



Model 812J

Write for Complete Data

● Carry this IDEAL Hot Pack Heater anywhere. Cuts capacity ... Stainless steel body. Fiberglas insulated—put it anywhere—won't damage furniture. Also useful as sterilizer. Thermostat control.

Model 813

THE SCHMITZDAHLER MFG. COMPANY, Toledo, O.
Distributed by The Colson Corporation, Elyria, Ohio, The Colson Equipment and Supply Co., Los Angeles and San Francisco, Calif., in Canada, Canadian Fairbanks Morse Co.

Ideal

PORTABLE
HOT PACK HEATER

LAMBL'S EXCRESCENCES ON AORTIC VALVE: *Note realism with which color records the complete rendition of detail in this lesion of the aortic valve. (From a Kodachrome transparency.)*

One 3200°K flood lamp in Kodak Vari-Beam Standlight is placed directly below the camera lens in order to outline the lesion against the shadow cast on the heart tissue.

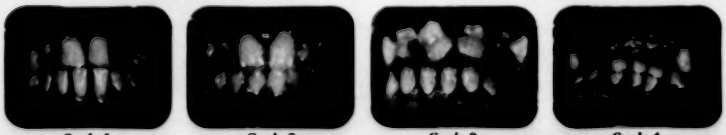
Picture the patient

in color . . . for records of maximum value

TODAY, photography is becoming routine procedure in more and more hospitals, clinics, and physicians' private offices. The patient "sits" at the time of first diagnosis; then, if the case promises to be at all significant, further "sittings" take place at regular, prearranged intervals until final discharge.

For maximum effectiveness, full-color photography is an acknowledged "must" wherever cases warrant. For color "sees" as the eye sees—realistically; allows the physician to observe and report at will . . . to file away graphic, visual records for study, reference, and teaching—weeks, years later.

The equipment requirements are minimal: merely a camera with color-corrected lens . . . reliable lighting . . . together with a supply of Kodak color film—Kodachrome or Ektachrome.



Grade 1 *Grade 2* *Grade 3* *Grade 4*

GINGIVITIS — NUTRITIONAL STUDY: *The importance of color in differentiating type and extent of a lesion is emphasized in this series of reproductions of four grades of gingivitis. (From Kodachrome transparencies.)*

Serving medical progress through Photography and Radiography

Kodak
TRADE-MARK

IDEAL CAMERA FOR CLOSE-UPS: *The new Kodak Flurolite Camera Combination is unexcelled for direct ground-glass focusing of subjects such as shown at right. Makes 2¼x 3¼-inch transparencies or may be converted to take 35-millimeter Kodachrome transparencies by means of the Kodak 35mm Film Adapter A. For further information, see your Kodak dealer . . . or write to Eastman Kodak Company, Medical Division, Rochester 4, N. Y.*

VINCENT'S LESION, TONGUE: *Note how brilliantly lesion and surrounding areas of infection are recorded. Transparencies like this are of lasting value in every physician's files. (From a Kodachrome transparency.)*

SUBUNGUAL HYPERKERATOSIS—NAIL POLISH REACTION: *An excellent example of careful posing. Here one exposure does the work of four by showing four different aspects side by side. (From a Kodachrome transparency.)*

V 1
195

EASY TO GET BRILLIANT COLOR

with Kodak color film . . . in almost any camera

ANY CAMERA with a color-corrected lens is a "color camera" once it's loaded with full-color Kodak Film—Kodachrome or Ektachrome. No special equipment is required . . . no special technic needed for the exposure.

IF YOU USE KODACHROME FILM, Kodak will do the processing for you (cost included in price of film). Duplicates (same size, enlarged, or reduced) and Kodachrome Prints are available through dealers.

IF YOU USE KODAK EKTACHROME FILM, processing may be handled in any well-equipped processing room or local laboratory—a tremendous advantage when immediate, same-day results are required. Here, too, Kodachrome Duplicates and Prints are available through dealers.

For further information, see your dealer . . . or write to Eastman Kodak Co., Medical Division, Rochester 4, N. Y.

CINE-KODAK [illegible] FILM, *rolls or magazines for 16-millimeter motion-picture cameras. Provides full-color positives for easy projection. Prints, slides, duplicates may be made or individual frames enlarged.*

KODACHROME FILM *in rolls for miniature cameras provides mounted transparencies.*

KODACHROME OR KODAK EKTACHROME FILM *for sheet-film cameras. Provides transparencies for viewing or projection. From these, color prints, duplicate enlargements, or reductions may be made.*

Major Kodak products for the medical profession

X-ray films; x-ray intensifying screens; x-ray processing chemicals; electrocardiographic papers and film; cameras—still- and motion-picture; projectors—still- and motion-picture; enlargers and printers; photographic film—color and black-and-white (including infrared); photographic papers; photographic processing chemicals; synthetic organic chemicals; microfilming products.

Kodak

Serving medical progress through Photography and Radiography

"Buvez Coca-Cola"

and west meets east in the pause that refreshes

In Bangkok, where temple bells commingle strangely with the tempo of modern business, a western custom has found hearty acceptance. With Thailanders, as with people everywhere, Coca-Cola and *the pause that refreshes* have become part of daily living—just as both provide welcome, pleasant moments to people here at home.

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(Continued from page 48)

DIRECTOR OF STUDENT HEALTH — STUDENT body of 3500; excellent facilities; very desirable southeast city 80,000; must be interested in student health; $7000; D180. Woodward Medical Bureau, 185 North Wabash, Chicago. C

WANTED — YOUNG PHYSICIAN; TRAINED IN obstetrics-gynecology; to join staff of medical department, South American plant of nationally known industrial company; town of 25,000; clinic and hospital staffed by North Americans. 521. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

INDUSTRIAL PHYSICIAN—YOUNG: BALTIMORE; $7200. New York Medical Exchange, 489 Fifth Avenue, New York, New York. Patricia Edgerly, Director. No registration fee. C

ONE OF LEADING PRIVATE PRACTICE GROUPS needs pediatrician, otolaryngologist and, also, physician qualified in industrial work; opportunity for industrial physician to engage in research in toxic problems; large city in Southwest; university center. 522. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

WANTED—YOUNGER DOCTOR WITH SOME IN-dustrial experience; for medical directorship of old established heavy duty precision machine manufacturer situated in desirable Great Lake city 850,000; 1800 employees; D1440. Woodward Medical Bureau, 185 North Wabash, Chicago. C

WANTED—DIRECTOR OF CLINICAL RESEARCH; physician experienced in metabolic research required; one of leading pharmaceutical companies; staff of outstanding researchers; East. 523. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

CALIFORNIA MEDICAL BUREAU AGENCIES: for physicians and other medical and scientific personnel; write for application blank; registration free. 24 S. Los Robles Ave., Pasadena 1, California. C

WANTED—ASSISTANT; BY PHYSICIAN WELL ES-tablished in Chicago; general practice predominantly surgery; permanent association offering partnership and opportunity of taking over practice after 5 years. 524. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

DIRECTOR OF PHARMACOLOGICAL WORK IN large food manufacturing company; newly created post for new product development; requires individual with good experience in pharmaceutical field; might consider highly qualified Ph.D.; East; D116. Woodward Medical Bureau, 185 North Wabash, Chicago. C

SHAY MEDICAL AGENCY
55 E. Washington Street
Chicago 2, Illinois

ANESTHESIA: Certified anesthesiologist needed; to head department in college of medicine; $[illegible] a year to start.

DERMATOLOGIST: Southern group are seeking dermatologist, monthly drawing amount of between $[illegible] and $[illegible] a month to start.

EENT: EENT man practicing 45 years in lovely Wisconsin town; wants to retire and will settle at your terms; excellent location.

GENERAL PRACTICE: For new well equipped small community hospital; to $10,000 to start on salary and percentage basis; West; experience with surgery preferred.

GENERAL RESIDENCY: $[illegible] and maintenance; 170 beds; large midwestern city.

INDUSTRIAL: Four man group wants industrial man to do trauma and routine office calls; basic salary or percentage or both; group operates on cooperative plan.

INTERNIST: Internist; with special training in gastroenterology; for excellent mid-west group; $[illegible] a month to start.

LOCATION: In center of large farming community; near 2 modern hospitals; office and apartment available; incoming man will have cooperation of community.

LOCUM TENENS: For 8 weeks beginning June 23rd; boys' camp; to $400 and maintenance and laundry; lovely location.

OBSTETRICIAN-GYNECOLOGIST: Excellent training with diplomate of the American Board of Obstetrics-Gynecology; in eastern city.

OPHTHALMOLOGIST: Excellent opportunity; for further training working with certified ophthalmologist; credit toward Board exams; estimated income of [illegible].

ORTHOPEDIST: Junior staff surgeon in orthopedic surgery; for California hospital; $[illegible] a month to start.

OTOLARYNGOLOGIST: Certified or eligible man needed for clinic; in Mid-West; salary open; town of 41,000.

PATHOLOGIST: 100 bed hospital; will discuss salary, terms, etc. with pathologist; Southeast.

PEDIATRICIAN: Certified or eligible man for department of pediatrics; starting salary $7000 to $[illegible]; liberal yearly increases and provisions made for eventual partnership; Mid-West.

PROCTOLOGIST: To assist fellow of American Proctologic Society; soon to become certified; preceptor basis; to $[illegible] for man with adequate training in surgery.

PSYCHIATRIST: For mental sanitarium of 100 beds; $[illegible] month; experienced in insulin coma and electroshock therapy.

PUBLIC HEALTH: Salary range of $7000-$8200 with retirement benefits, 15 days vacation and sick-leave; California license and public health experience.

RADIOLOGIST: Group of 34 in Pacific Northwest; enlarging group and needs radiologist; salary open, attractive features such as retirement fund, vacation, post-graduate study.

STUDENT HEALTH: State college; mid-west, desires student health physician at from $[illegible] to $[illegible] a year.

SURGEON: Location on East Coast; hospital in town; profitable practice from the beginning.

TUBERCULOSIS: Clinical director; at a salary of $[illegible] per month and full maintenance; staff physician; salary $[illegible] to $400 a month and full maintenance; wanted for southern sanatorium; must be trained in tuberculosis work.

FOREIGN: Physician and surgeon; for Pacific cable station; 1 year contract; salary open; no married accommodations available; transportation provided from coast and back.

Freeman

FULLY ADJUSTABLE AND FIRMLY BRACED SUPPORT FOR SACRO LUMBAR REGION

This fine quality back brace provides comfortable support and firm pressure throughout the sacro-lumbar region. Freeman's Model 422 has proved particularly helpful in cases of severe back strain and after cast removal. The back is braced vertically by two sturdy and specially tempered stays which are easily removed from their pockets to permit washing the garment. Fully adjustable by means of side lace and 2 pull-up straps. Made of white canvas with elastic side sections. Front closing by convenient snap fasteners. Even sizes 28 to 44 for small to large figures.

MODEL 422

Freeman also makes this garment in two other lengths for conditions which require higher support. MODEL 425 extends to the extreme limits of the sacro-lumbar region, while MODEL 421 provides support midway between Models 425 and 422. Both garments come with correspondingly longer stays.

HANDY REFERENCE CATALOG

Use coupon below to obtain a free copy of Freeman's pocket-size reference catalog. It illustrates and describes 30 of the most frequently prescribed garments in Freeman's complete line of surgical supports.

FREEMAN MFG. COMPANY
Dept. 255 STURGIS, MICHIGAN

Please send me a copy of your fully illustrated pocket-size reference catalog.

NAME ______________________

ADDRESS ______________________

CITY ______________ STATE ______

WANTED—INTERNIST; DIPLOMATE OR ELIGIBILI-ty for American Board; to become associated with 12 man clinic; advantageous if particularly well qualified in gastroenterology; college town of 30,000; Mid-West; $9000-$12,000; partnership after 2 years. 525. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

ASSISTANT PHYSICIAN — MINING PRACTICE; Pennsylvania; $9000 plus extras. New York Medical Exchange, 489 Fifth Avenue, New York, New York. Patricia Edgerly, Director. No registration fee. C

WANTED—OBSTETRICIAN-GYNECOLOGIST; DIPLO-mate or eligible; to become associated with obstetrician-gynecologist, diplomate; excellent hospital and teaching connections; middle western city; opportunity faculty appointment; around $12,000. 526. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

OTOLARYNGOLOGIST—WANTED BY OLD ESTAB-lished 15 man group; situated in desirable county-seat town; department headed by Board otolaryngologist and Board ophthalmologist; serves tremendous area; unusually fine working conditions include paid post-graduate time plus all expenses; Northcentral; D255. Woodward Medical Bureau, 185 North Wabash, Chicago. C

WANTED—YOUNG PHYSICIAN; WITH YEAR OR 2 training in medicine; to become associated with medical department of large industrial company; career position; metropolitan area of East; commuting distance, New York City. 527. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

GENERAL PRACTITIONER—CALIFORNIA: wanted by 3 man group operating on partnership basis; age to 30; no private practice experience required. Continental Medical Bureau, Agency, 510 West Sixth, Los Angeles 14, California. C

WANTED—DIRECTOR OF STUDENT HEALTH DE-partment; one of country's largest universities; department well staffed; outstanding opportunity. 528. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

INDUSTRIAL PHYSICIAN—YOUNG: UPSTATE NEW York; $8000. New York Medical Exchange, 489 Fifth Avenue, New York, New York. Patricia Edgerly, Director. No registration fee. C

WANTED—PEDIATRICIAN; TO HEAD DEPART-ment, 15 man clinic; diplomate preferred, will accept pediatrician eligible for Board; substantial salary including home; summer and health resort; city of 80,000, south. 529. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

INDUSTRIAL PHYSICIAN—CHARGE DISPENSARY; Ohio; good opportunity; $7500. New York Medical Exchange, 489 Fifth Avenue, New York, New York. Patricia Edgerly, Director. No registration fee. C

WANTED—PATHOLOGIST; DIPLOMATE; TO DI-rect department, fairly large hospital; procedures average 6000 monthly; large city of South; located in winter resort area; straight salary or not less than $15,000 or percentage which should net somewhat more. 530. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

UNIVERSITY PHYSICIAN—MALE; YOUNG; NEW York state; August 1st; $6500 1st year. New York Medical Exchange, 489 Fifth Avenue, New York, New York. Patricia Edgerly, Director. No registration fee. C

WANTED — PHYSICIANS; INTERESTING OPPOR-tunities for American Board men qualified to head departments, general and industrial physicians, recent graduates desirous of further training; strictly confidential. Burneice Larson, Medical Bureau, Palmolive Building, Chicago. C

INTERNS AND RESIDENTS WANTED

*The * signifies a hospital approved for internships and the + approved for residencies in specialties by the Council on Medical Education and Hospitals of the A. M. A. Consult Council's approved list for types of internships and residencies approved.*

PSYCHIATRY AND NEUROLOGY—APPROVED ONE year residency; starting July 1, 1950; in 550 bed teaching general hospital *+; 94 bed psychiatric unit; unexcelled possibilities for experience in clinical psychiatry, shock therapies, and psychotherapy; all disciplines represented including psychoanalytic psychotherapy, active medical neurologic service, neuropsychiatric consultations, psychosomatic medicine in general hospital; unusual opportunity for fulfillment of 1 year requirement in clinical psychiatry and neurology for American Boards. Apply: Medical Director, St. Luke's Hospital, 1439 S. Michigan Avenue, Chicago, Illinois. D

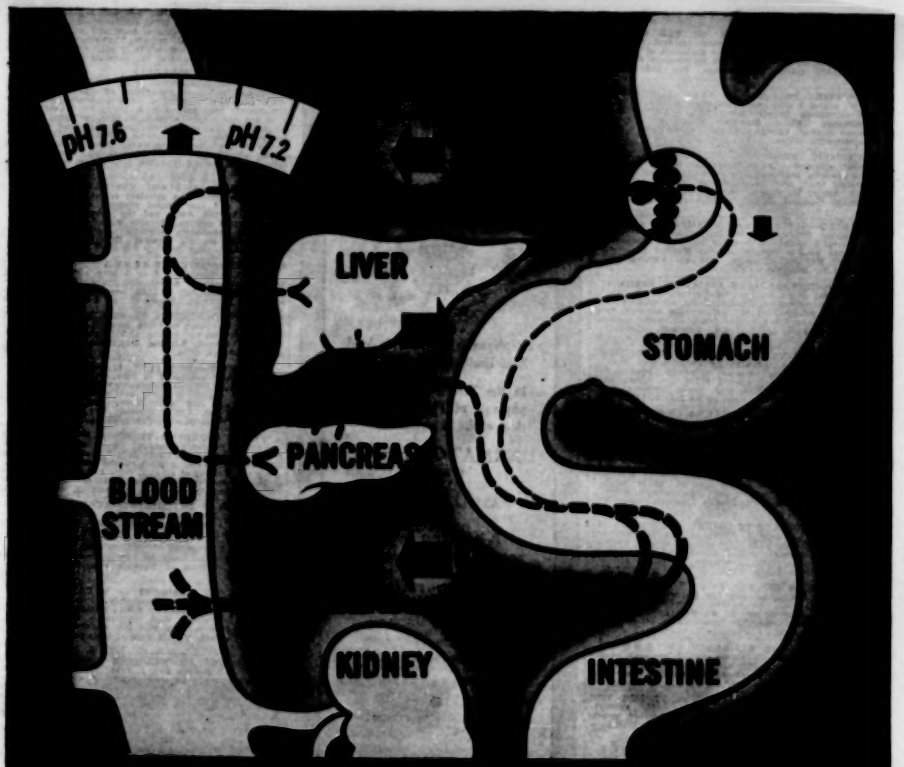
WANTED—(TWO) RESIDENTS; FOR JULY 1, 1950; in surgery; offering training of 1 or 2 years' duration in preparation for residency training in the surgical specialties; service approved by the Council of American Medical Association; general hospital; 175 beds; 30 bassinets; applicants must be graduates of class A American or Canadian medical schools; stipend $150 per month and maintenance. The Deaconess Hospital, * + Clifton Ave. & Straight St., Cincinnati 20, Ohio. D

425 BED CALIFORNIA HOSPITAL*+—APPLY: Administrator, Seaside Memorial Hospital, Long Beach, California; 1 approved pediatric residency available July 1st; 1 mixed residency available July 1st; mixed residency with emphasis on surgery, obstetrics, emergency service; stipend $180 per month with your own apartment; California license necessary. D

WANTED—RESIDENTS; FOR JULY 1, 1950; TWO IN medicine; 1 year; service approved by the American Medical Association; 175 beds, thirty bassinets, general hospital * +; applicants must be graduates class A American or Canadian medical schools; stipend $150 per month and maintenance. The Deaconess Hospital, Clifton Ave. & Straight St., Cincinnati 20, Ohio. D

INTERN WANTED—FOR COUNTY HOSPITAL, Tampa, Florida; non accredited and cannot be used toward specialty boards, but offers excellent experience in obstetrics, gynecology, surgery, medicine and pediatrics for any one planning to do general practice; salary $250 plus maintenance. Apply: Dr. Leo Batell, County Hospital, Tampa, Florida. D

(Continued on page 52)



In peptic ulcer... relief without upset

"Double-gel-action" AMPHOJEL helps to provide a favorable physiological environment in which nature's healing forces can work at optimal efficiency in peptic ulcer.

The *antacid gel component* instantly stops gastric corrosion; The *demulcent gel component* provides local protection. No alkalosis or acid rebound because

AMPHOJEL®
ALUMINUM HYDROXIDE GEL

does not disturb the normal acid-base equilibrium of the blood stream.

Bottles of 12 fl. oz. at all pharmacies.

Wyeth Incorporated, Philadelphia 3, Pa.

Wyeth

(Continued from page 50)

IMMEDIATE OPENING—IN 102 BED HOSPITal *+; Southeast; for medical resident for approved training; chief of service diplomate of Board; salary $250 per month with full maintenance or $300 per month without maintenance. Box 9530 D, % AMA.

ORTHOPEDIC FELLOWSHIP—AVAILABLE JULY 1, 1950; allows 1 year credit, including basic science, toward Orthopedic Boards; salary $200 a month without maintenance. Albany Hospital, * + affiliated with Albany Medical College, Albany, New York. Write Administrative Office. D

PATHOLOGY RESIDENCY—AVAILABLE JULY 1, 1950; approved 1 to 2 years; 240 bed hospital *+; active teaching program; 5300 surgical specimens; 61,000 laboratory tests; state cancer diagnostic clinic; $150 per month. Apply: D. O. Manshardt, MD, Pathologist, The Methodist Hospital of Central Illinois, Peoria 5, Illinois. D

WANTED—RESIDENTS IN MEDICINE: FOR IMmediate service and for July, 1950; at Detroit Memorial Hospital,* + formerly St. Mary's Hospital; 330 bed general hospital. Reply: Medical Director, Detroit Memorial Hospital, 1420 St. Antoine St., Detroit 26, Michigan. D

WANTED—RESIDENT AND ASSISTANT RESIDENT; in internal medicine; approved for residency by AMA; 180 beds; active out-patient department, including all the specialties; salary $105 per month plus uniforms and maintenance. Apply: Director, South Baltimore General Hospital,* + 1213 Light Street, Baltimore 30, Maryland. D

RESIDENCY—ENT; 1000 BED GENERAL TEACHING hospital *+ connected with the University of Buffalo, New York; training includes endoscopy, plastic and otorhinological surgery; stipend $1700 per annum with yearly raises. Apply: Edward J. Meyer Memorial Hospital, Buffalo, New York. Opening for July 1, 1950. D

SAINT JOSEPH HOSPITAL,*+ LEXINGTON, Kentucky needs a urologic resident and 2 general residents; to begin July, 1950; residencies fully approved; stipend for each, $120. Write: Administrator for details. D

WANTED — RESIDENT IN GENERAL PRACTICE; 4 months in Olean hospital supplemented by 8 months in affiliated Buffalo teaching hospital; offers unusual opportunity for someone going into general practice. Apply: Superintendent, St. Francis Hospital, Olean, New York. D

WANTED—RESIDENT IN RADIOLOGY; FOR UNEXpected vacancy July 1, 1950; in 400 bed teaching hospital *+ in New York City; approved service; must be graduate of approved medical school with internship in approved hospital; full maintenance, uniforms, $50 per month. Box 9528 D, % AMA.

WANTED—TWO RESIDENTS; JULY 1, 1950; RESIdency in general practice for 1 year; general hospital,*+ 175 beds, 30 bassinets; applicants must be graduates of class A medical schools; stipend $150 per month and maintenance. The Deaconess Hospital, Clifton Ave. & Straight St., Cincinnati 20, Ohio. D

AVAILABLE—ONE RESIDENCY INTERNAL medicine; approved, active clinical services; good teaching program; 300 bed general hospital *+; stipend $100 and maintenance; beginning July 1, 1950. Box 9521 D, % AMA.

WANTED—PATHOLOGICAL RESIDENT; FOR THE Williamsport Hospital, * + Williamsport, Pennsylvania; residency for 3 years; stipend $100 per month. Apply: D. W. Hartman, Administrator, The Williamsport Hospital. D

APPROVED ANESTHESIOLOGY RESIDENCY—available July 1, 1950; university hospital.*+ Apply: Department of Surgery, Section on Anesthesiology, University of Louisville Medical School, Louisville, Kentucky. D

THE HOSPITAL+ FOR CRIPPLED CHILDREN, 89 Park Avenue, Newark 4, New Jersey, announces that applications for residency in orthopedic surgery from July, 1950 to 1952 are now being considered; service fully approved for adult and children's orthopedics. D

ANAESTHESIOLOGY—APPROVED RESIDENCY: training in all phases of anesthesia. Write: Max Frick, MD, Lenox Hill Hospital,*+ 111 E. 76 St., New York 21, New York, 2 vacancies beginning July 1st. D

OPHTHALMOLOGY RESIDENCY — AVAILABLE IN 300 bed, fully approved, general hospital.*+ Contact: Arkansas Baptist Hospital, Little Rock, Arkansas. D

RESIDENCY IN RADIOLOGY — JULY 1ST; ONE 3 year appointment; to graduate grade A school only; 270 bed hospital *+; approved AMA, ACS. Apply: Dr. McCandliss, Butterworth Hospital, Grand Rapids, Michigan. D

TWO RESIDENT PHYSICIANS—MUST BE ELIGIBLE for license in Minnesota; 120 bed general hospital; $200 per month plus 3 room apartment or $340 per month; positions opening July 1st. Apply: Administrator, St. Luke's Hospital, St. Paul, Minnesota. D

ONE YEAR RESIDENCY—IN OBSTETRICS; AVAILable July 1st or as soon thereafter as possible. For full information write: Robert Packer Hospital *+ and Guthrie Clinic, Sayre, Pennsylvania. D

HAVE A VACANCY—FOR AN INTERNSHIP; STARTing July 1st; 340 bed hospital * in Florida; approved by ACS and internship approved by AMA. Tampa Municipal Hospital, Tampa, Florida. D

ENT RESIDENT WANTED—APPOINTMENT AVAILable July 1, 1950; full maintenance. Apply: Samuel Soskin, MD, Dean, Michael Reese Hospital *+ Postgraduate School, 29th & Ellis Ave., Chicago 16, Illinois. D

WANTED—INTERN OR RESIDENT; ON APPROVED urological service; in fully approved general hospital *+; in Southeast; salary and full maintenance; those with previous surgical training preferred. Box 9520 D, % AMA.

ANESTHESIOLOGY RESIDENCY—APPROVED; EXcellent training in all phases of anesthesia; male or female; 1 year, July 1st; $100 monthly; uniforms and full maintenance. Unity Hospital,*+ 1545 St. Johns Place, Brooklyn, New York. D

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OINTMENT AND POWDER OF ZINCUNDECATE

Employs the Undecylenic Acid Zinc Undecylenate "TEAM"

in the Treatment and Prophylaxis of Fungous Infections of the Skin, especially—

DERMATOMYCOSIS PEDIS

"ATHLETE'S FOOT"

Effective
Virtually
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Cures the average moderate to severe case in two to three weeks.

●

OINTMENT

Undecylenic Acid	5%
Zinc Undecylenate	20%

Tubes of 1 oz. Jars of 1 lb.

POWDER

Undecylenic Acid	2%
Zinc Undecylenate	20%

Sifter packages of 1½ oz.
Containers of 1 lb.

Trial supplies and literature sent on request.

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Pharmaceutical Division

WALLACE & TIERNAN PRODUCTS, INC.
Belleville 9, N. J., U. S. A.

PD-21

ROTATING INTERNSHIPS AND ROTATING GENeral residencies; available now and beginning July 1, 1950; stipend; interns, $175; residents, $225 per month; maintenance; 300 bed general hospital * with out-patient department; organized training in medicine, surgery, pathology, radiology, etc. Write or call: Chairman, Intern and Residency Committee, St. Joseph's Mercy Hospital, Pontiac, Michigan. D

WANTED — RESIDENT PHYSICIAN; IN WELL equipped radiology department of 125 bed approved AMA and ACS hospital*+ with associated out-patient department; beginning July 1, 1949; for 1 year; salary $175 per month plus complete maintenance; good teaching program for general practice and specialized field; the hospital located near university medical school; applicant should be graduate of approved medical school with MD degree plus 1 year approved internship. Apply: Superintendent, Woodlawn Hospital, 6060 Drexel Ave., Chicago 37, Illinois. D

APPROVED ASSISTANT RESIDENCY IN SURgery available—An assistant residency for the 1st year of a 4 year graded program in surgery; approved by the AMA and the American Board of Surgery; is available for the period beginning July 1, 1950. Applicants interested should apply: Superintendent, Norfolk General Hospital,*+ Norfolk, Virginia. D

OTOLARYNGOLOGY—ASSISTANT RESIDENCY; teaching hospital *+; 2 or 3 year service; including broncho-esophagology and rhinoplasty; AMA residency approved; available July 1, 1950. Long Island College Hospital, 340 Henry St., Brooklyn, New York. D

WANTED — RESIDENTS IN OBSTETRICS AND IN internal medicine; to begin July 1, 1950; in 234 bed general hospital *+ having 11,351 admissions in 1949. Write: Chairman, Resident Committee, St. Alexis Hospital, Cleveland, Ohio. D

RESIDENTS — FOR JULY 1, 1950; ROTATING residencies available; in busy, well equipped general hospital *+; in metropolitan Philadelphia area; ideal for general practice; weekly clinical meetings; stipend and full maintenance; also vacancies for several interns. Apply: Director, The Chester County Hospital, West Chester, Pennsylvania. D

A FULLY APPROVED THIRD AND FINAL YEAR surgical residency opening; St. Luke's Hospital,*+ Denver, Colorado; beginning July 1, 1950; those eligible must have completed 2 years of approved training; residency offers choice of surgical cases and definite minimum of charity surgical cases; in charge of the other residents and interns, scheduling of training, etc. D

RESIDENCY IN PSYCHIATRY—AVAILABLE JULY 1, 1950; department under certified experienced psychiatrist and is fully approved; $275 monthly and complete maintenance for self and wife. Box 9470 D, % AMA.

MEDICAL RESIDENT—UNEXPECTED VACANCY; IN an approved residency in internal medicine. Apply at once: Administrator of Norwalk Hospital,*+ Norwalk, Connecticut. D

PATHOLOGY RESIDENT — VACANCY; OCCAsioned by illness; immediately available; approved 1 to 3 years training by AMA; certified pathologist; active laboratory; 4000 surgicals; 100 autopsies; stipend $100 monthly plus full maintenance. Write: Superintendent, Norfolk General Hospital,*+ Norfolk, Virginia. D

RESIDENCIES IN MEDICINE AND SURGERY—available beginning July 1, 1950; 325 bed general hospital +; approved for straight medical and surgical residency training; Board certification; salary excellent with full maintenance. Apply: Chief Surgeon, Missouri Pacific Hospital Assn., 1755 South Grand Blvd., St. Louis 4, Missouri. D

RESIDENT DOCTOR—APPOINTMENT JULY 1ST FOR 6 months; approved general + voluntary Westchester, New York hospital; substantial remuneration; prerequisites approved medical school and internship. Box 9469 D, % AMA.

WANTED—RESIDENT; 150 BED MODERN GENERAL voluntary hospital; approved ACS; maintenance plus $175 monthly. Box 9455 D, % AMA.

WANTED — RESIDENT IN PATHOLOGY; FOR Board approved service; 1 to 3 years; begins July 1, 1950; 600 bed approved hospital *+; large surgical and autopsy service; active teaching program. Apply: Sister Marie Charles, Administrator, Good Samaritan Hospital, Cincinnati, Ohio. D

RESIDENTS WANTED—FOR NEW HOSPITAL+ ADdition for the study of acute medical, surgical and orthopedic problems; $150 per month with maintenance. Apply: Superintendent, Jewish Sanitarium and Hospital for Chronic Diseases, 86 East 49th Street, Brooklyn 3, New York. D

WANTED—RESIDENT PHYSICIAN; FOR A 50 BED general hospital; in Detroit; $6000 per annum and an unexcelled opportunity for training in general practice. Apply: Administrator, North Detroit General Hospital, Detroit 12, Michigan. D

WANTED—PHYSICIAN; JULY 1ST; IN TUBERculosis hospital,+ approved for residency; in midwest university city; service includes a great deal of internal medicine and chest surgery; living quarters and maintenance furnished; state license and citizenship required. Box 9474 D, % AMA.

ANESTHESIOLOGY RESIDENCY — TWO YEAR APproved residency available; stipend, maintenance; full-time diplomate charge of department. Address: R. W. Maio, MD, Director, Dept. Anesthesiology, Abington Memorial Hospital,*+ Abington, Pennsylvania. D

WANTED — ORTHOPEDIC RESIDENT PHYSICIAN; orthopedic hospital; metropolitan Washington, DC; non-approved; train under 2 surgeons; diplomates American Board; live in; start June 15th. Write: Anderson Orthopedic Hospital, 2455 Army-Navy Drive, Arlington, Virginia. D

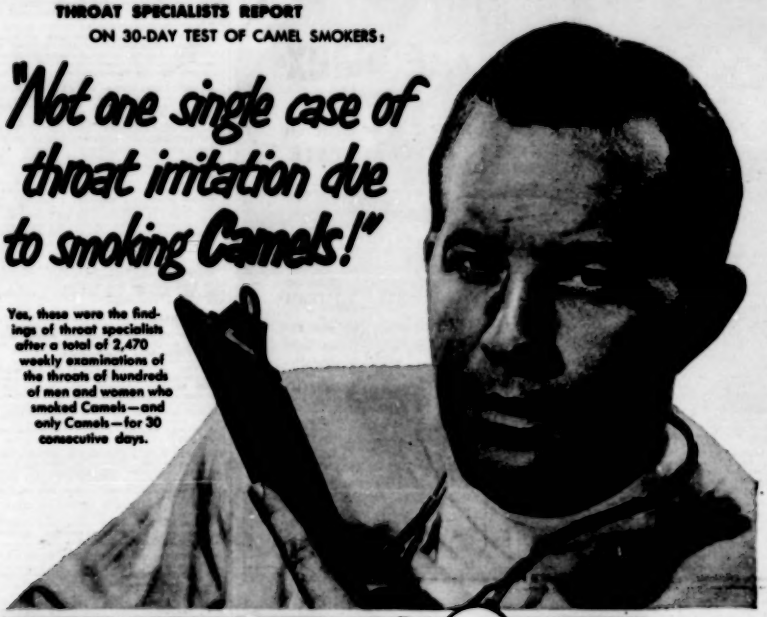
RESIDENCIES IN ANESTHESIOLOGY—OPEN, LARGE general hospital.*+ Apply: Dr. I. O. Weissman, Executive Director, Jewish Hospital, York and Tabor Roads, Philadelphia, Pennsylvania. D

WANTED — GENERAL RESIDENT; MUST BE graduate of class A school; position open July 1st; salary $300 per month with living quarters provided by 4 room cottage, completely furnished. Apply: Lafayette Home Hospital, Lafayette, Indiana. D

(Continued on page 54)

THROAT SPECIALISTS REPORT
ON 30-DAY TEST OF CAMEL SMOKERS:

"Not one single case of throat irritation due to smoking Camels!"



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(Continued from page 52)

RADIOLOGY RESIDENT—JULY 1, 1950; FIRST YEAR appointment with basic science opportunities; in 400 bed, fully approved, teaching hospital *+; New York City; lodging, board and uniforms furnished; no salary. Box 9479 D, % AMA.

APPLICATIONS BEING RECEIVED — OBSTETrics; for July 1, 1950. AMA approved; teaching program; 340 beds; $125-$200 per month plus full maintenance. Write: Supt. Norfolk General Hospital,*+ Norfolk, Virginia. D

PATHOLOGY RESIDENTS — TWO APPOINTMENTS available; in 440 bed, fully approved, teaching hospital *+; in metropolitan New York; opportunity for basic science work; lodging, board and uniforms furnished; no salary; available July 1, 1950. Box 9478 D, % AMA.

RESIDENT IN ROENTGENOLOGY — JULY 1, 1950; 335 bed hospital; approved ACS and ACR; affiliated with medical school; 2 year training approved by Board of Radiology. Apply: Dr. J. Arendt, Mt. Sinai Hospital, Chicago, Illinois. D

RESIDENT IN MEDICINE—AMA AND BOARD APproved; 1800 medical admissions; active out-patient. Fairview Park Hospital,*+ 3305 Franklin Blvd., Cleveland 13, Ohio. D

APPROVED RESIDENCY—IN CHEST DISEASES; is available at Sunnyside Sanatorium,+ Indianapolis, Indiana; for July 1st; remuneration in the form of maintenance and salary of $300. Apply direct to the superintendent. D

INTERNSHIPS AND MIXED RESIDENCIES—AVAILable July, 1950; AMA approved 300 bed general hospital *+; full maintenance and $100 and $200 respectively; special arrangements married doctors. Apply: Administrator, Mercy Hospital, Hamilton, Ohio. D

RESIDENTS WANTED AT ONCE — MUST BE A graduate of grade A school; rotating service; 240 bed hospital *+ approved for internships and mixed residencies; salary $200 per month plus maintenance. Methodist Hospital, Peoria 5, Illinois. D

OB-GYN RESIDENCY — THREE YEAR APPOINTment; to begin July 1, 1950; affiliation with University of Michigan for 2nd year. Write: Superintendent, Hurley Hospital,*+ Flint, Michigan. D

APPLICATIONS BEING RECEIVED—INTERNAL medicine; for July 1, 1950; AMA approved; teaching program; 340 beds; $125-$200 per month plus full maintenance. Write: Supt. Norfolk General Hospital,*+ Norfolk, Virginia. D

APPROVED GENERAL PRACTICE RESIDENCY — northern Rocky Mountain area; $300 per month starting salary. Box 9468 D, % AMA.

RESIDENTS—TWO OPENINGS JULY 1st; FOR A mixed residency; 125 bed general hospital +; salary $325 per month with room, board and laundry. Apply: Superintendent, Newcomb Hospital, Vineland, New Jersey. D

PATHOLOGY—APPROVED RESIDENCY; AVAILABLE July 1, 1950; 100 autopsies and 2200 surgicals last year; active teaching program; director is full-time, certified; salary $125 monthly plus maintenance. Write: Laboratory Director, Samaritan Hospital,*+ Troy, New York. D

RESIDENT MEDICAL DIRECTOR — PSYCHIATRIST with Ohio license or eligible preferred; private 100 bed psychiatric hospital +; approved residency training; organized visiting staff; salary and residence for family; full maintenance self and wife. Box 9431 D, % AMA.

WANTED—TWO RESIDENT PHYSICIANS SEPtember 1, 1950 and 1 resident physician January 1, 1951; for combination residency between medical department of municipal hospital and large university infirmary; approved for training in internal medicine; qualifications, graduate approved medical school, 9 months internship; salary, $3000 plus maintenance; exceptional opportunity for voluntary study in pathology, biochemistry and nutrition. Box 9412 D, % AMA.

WANTED—RESIDENT IN MEDICINE; FOR FULLY approved residency in 207 bed private general hospital *+; must be graduate of approved medical school in United States or Canada; vacancy July 1, 1950, or sooner; full maintenance, rent-free furnished apartment and $75 a month; a few apartments large enough for resident, wife and children. Apply: Superintendent, Ravenswood Hospital, 1931 W. Wilson Ave., Chicago 40, Illinois. D

RESIDENT IN ANESTHESIOLOGY — BEGINNING July 1 or 15, 1950; fully approved; expanded and integrated teaching program; special interest in diagnostic and therapeutic nerve blocking; salary $1500 per year with full maintenance. Apply: F. Paul Ansbro, MD, St. Catherine's Hospital,*+ 133 Bushwick Avenue, Brooklyn 6, New York. D

RESIDENCY IN PSYCHIATRY—ONE OR TWO YEAR appointments in a large active psychiatric hospital + in Connecticut; approved for residency; attractive salary and good living conditions; vacancies are also available for assistant physicians. For details write: Dr. Edgar C. Yerbury, Superintendent, Connecticut State Hospital, Middletown, Connecticut. D

RESIDENCY—RADIOLOGY; BOARD APPROVED FOR 2 years; applicants preferably those intending to eventually take Board examinations; appointments open for July 1, 1950. For further details apply: Dr. George W. Cramp, Department of Radiology, Methodist Hospital,*+ Brooklyn 15, New York. D

RESIDENCY IN INTERNAL MEDICINE—BEGINning July 1, 1950; 3 year training program approved by the American Medical Association and the American Board of Internal Medicine; 330 bed general hospital,*+ Apply: Superintendent, The Toledo Hospital, Toledo 6, Ohio. D

ASSISTANT SURGICAL RESIDENCY—AVAILABLE July 1, 1950; approved by Board for 1 or 2 years in surgical specialties; large out-patient department; very active service. Apply: Administrator, Mount Sinai Hospital,*+ Milwaukee 3, Wisconsin. D

INTERNAL MEDICINE—APPROVED RESIDENCY; 1 year; available July 1, 1950; 350 bed general hospital *+; salary $150 per month and maintenance; Illinois license necessary. Apply: Superintendent, Little Company of Mary Hospital, Evergreen Park, Illinois. D

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WANTED—RESIDENT; ROTATING SERVICE; APproved by the American College of Surgeons; July 1, 1950 appointment class A American graduate only; residents perform surgery when capable; $250 per month with room and laundry; 100 bed hospital. Box 9423 D, % AMA.

WANTED—1ST ASSISTANT AND 2ND ASSISTANT resident in medicine; for ACS approved hospital * + with AMA approved program; vacancies occurred due to illness of those contracted. Apply: Administrator, West Baltimore General Hospital, Baltimore 16, Maryland. D

ANESTHESIOLOGY — APPROVED RESIDENCY; joint program of training all phases anesthesia. Write: John R. Lincoln, MD, Maine General Hospital,*+ Portland, or Gilbert Clapperton, MD, Central Maine General Hospital,*+ Lewiston, Maine. D

ANESTHESIOLOGY—APPROVED AVAILABLE; STIpend and full maintenance. Address: Dr. Julia G. Arrowood, Chief of Anesthesia Service, Massachusetts Memorial Hospitals, 750 Harrison Avenue, Boston 18, Massachusetts. D

ASSISTANT RESIDENT PSYCHIATRIST — 100 BED private psychiatric hospital +; approved for training; salary and maintenance; July 1, 1950. Box 9432 D, % AMA.

RESIDENT AND ASSISTANT RESIDENT—IN RADIOlogy; beginning July 1, 1950; large eastern teaching hospital.*+ Box 9425 D, % AMA.

MEDICAL RESIDENCY — ASSISTANT; AVAILABLE JULY 1st; fully approved hospital *+; 200 patients; $125 plus uniforms and maintenance; class A graduates only. The Lawrence and Memorial Associated Hospitals, New London, Connecticut. D

ANESTHESIOLOGY RESIDENCIES—FULLY APproved; complete clinical and didactic program. For particulars write: Seymour Schotz, MD, Presbyterian Hospital *+ in Philadelphia, 51 North 39th St., Philadelphia, Pennsylvania. D

WANTED—JULY 1ST; BECAUSE OF UNEXPECTED complications; 1 assistant surgical resident; in completely approved hospitals + aggregating 325 beds; $100 a month and maintenance. Box 9435 D, % AMA.

APPROVED RESIDENCIES—AVAILABLE IN MEDIcine, general practice and pathology; July 1, 1950; 349 bed general hospital *+ with active teaching program. Box 9433 D, % AMA.

RESIDENCY IN PATHOLOGY—AVAILABLE JULY 1, 1950 or earlier; graduate of approved medical school; university affiliation and appointment; Board approved for 1-3 years. Apply: Director of Medical Education, New Britain General Hospital,*+ New Britain, Connecticut. D

RESIDENT POSITIONS OPEN—100 BED, MODERN, progressive, general, voluntary hospital; surgery and obstetrics are particularly active; maintenance plus $200 monthly; state license not required. Adelphi Hospital, 50 Greene Ave., Brooklyn 5, New York. D

APPROVED OPHTHALMOLOGY RESIDENCY—PENNsylvania Hospital * +; under certified ophthalmologist; post-graduate course in ophthalmology or previous ophthalmic training required; 1949 out-patients 8497; admissions 217; refractions 4989; consultations 309; operations 271; cataract extractions 55; associated with group of 12 specialists. Box 9396 D, % AMA.

INTERNS AND ASSISTANT RESIDENTS—YEAR BEginning July 1, 1950; rotating service; AMA approved 218 bed modern general hospital,* affiliated with New York University College of Medicine provides excellent educational program; hospital 60 miles from New York City; graduates of approved schools only; salary $150 per month and maintenance. Apply: Superintendent, St. Luke's Hospital, Newburgh, New York. D

WANTED—RESIDENT PHYSICIANS; BEGINNING July 1, 1950; county general hospital +; 136 beds; active out-patient service; approved AMA for general practice; ACS; salary $225 plus complete maintenance for self; excellent opportunity for experience and training for general practice. Apply: John C. Sharp, MD, P. O. Box 1611, Salinas, California. D

INTERNES WANTED—JULY, 1950 GRADUATES of accredited A medical schools; fully approved rotating internship; 210 beds, 30 bassinets; monthly stipend $100, full maintenance and uniforms; hospital *+ approved for surgical, medical, pathological and anesthesiology residencies. Apply: Dr. John W. Hocker, The Memorial Hospital, Wilmington 12, Delaware. D

WANTED—ASSISTANT RESIDENT IN DERMATOLOgy and syphilology; July, 1950 to July, 1951; this service has been approved by the American Board of Dermatology and Syphilology for 1 year; AMA approved; salary and maintenance. Address: Department of Dermatology and Syphilology, Medical College of Virginia, Richmond, Virginia. D

MEDICAL RESIDENT—210 BED GENERAL HOSpital * +; approved for 3 years with an additional assistant medical residency available July 1, 1950; applicant must be graduate approved medical school plus 1 year rotating internship. For further information write: The Memorial Hospital, Wilmington 12, Delaware. D

12 MONTHS ROTATING INTERNSHIPS, 4; BEGINning July 1, 1950; AMA approved; $75 plus maintenance; 150 adult beds and 50 bassinets. Fairview Park Hospital,+ 3305 Franklin Blvd., Cleveland 13, Ohio. D

INTERNSHIPS, MEDICAL AND SURGICAL RESIdencies—3 each; vacancies July 1, 1950; fully approved hospital *; 300 beds; 20 minutes Times Square, New York; stipend for interns AMA approved schools $100 month plus full maintenance; for residents, $150 to $200 month plus maintenance. Christ Hospital, Jersey City, New Jersey. D

WANTED—ONE FIRST AND ONE SECOND YEAR resident in pediatrics; residencies approved. Shreveport Charity Hospital,*+ Shreveport, Louisiana. D

ASSISTANT OR RESIDENT IN PATHOLOGY—July 1, 1950; 250 bed hospital; fully accredited AMA and American Board Pathology; full-time pathologist; $100-$300 per month depending previous training. Box 6388, Zone 5, Jacksonville, Florida. D

AVAILABLE—TWO APPROVED INTERNSHIPS, JULY 1950; 1 approved medical residency, July 1950; 1 approved OBS-GYN residency, January 1951. Apply: Superintendent, St. Francis Hospital,* 525 East 142nd Street, Bronx 54, New York. D

APPROVED ROTATING INTERNSHIPS AND RESIDencies in surgery, pathology, psychiatry and OBSTETRICS; few internship vacancies, July 1, 1950; salary $65, complete maintenance; also vacancies for residencies in psychiatry and for 1 first year surgical residency; in a 5 year recently approved program. July 1, 1950; salary $100, complete maintenance. Write: Administrator, Barnes Memorial Hospital.* ÷ Berkeley 4, California. D

WANTED—MALE INTERNS AND HOUSE PHYsicians; Jefferson Hospital*; rotating hospital approved; 145 beds, 20 bassinets; emergency receiving service; good living quarters; salary $100 per month and maintenance; 7074 Gratiot, Detroit 7. Apply: Superintendent, Jefferson Hospital, 2040 Parkman Pl., St. Louis 10, Missouri. D

ALBANY HOSPITAL*÷ AND ALBANY MEDICAL College—offer 2 year residency in anesthesiology; to graduates of approved medical schools who have completed 1 year of an approved internship. For further information write: Henry H. Harnett, M.D., Albany Hospital, Albany 1, New York. D

APPROVED ENT RESIDENCY—AVAILABLE JULY 1, 1950; plus approved residency in neurology and psychiatry, Albany Hospital,*÷ affiliated with Albany Medical College, Albany, New York. Write: Administrator of clinics. D

WANTED—INTERNS; 165 BED HOSPITAL; TRAINing program approved AOA, ACS; salary $150; individual room and maintenance; also residency; salary $200; Grandview Memorial Hospital, Weirton, West Virginia. D

RESIDENT AND ASSISTANT RESIDENT—BEGINning July, 1950; for 320 bed tuberculosis service; division of large eastern teaching general hospital*÷; full credit toward requirements American Board Internal Medicine. Box 9322 D, % AMA. D

ANESTHESIOLOGY RESIDENCY—CORRELATED with other residency training; 1 or 2 year appointments; male or female; immediately; stipend; maintenance. William J. Martin, Jr., M.D., Director, Department of Anesthesiology, St. Vincent Hospital,*÷ Worcester, Massachusetts. D

GENERAL RESIDENT—TO START JULY 1, 1950; salary open; 340 bed general hospital,*÷ approved by the American College of Surgeons. Apply: Superintendent, Conemaugh Valley Memorial Hospital, Johnstown, Pennsylvania. D

INTERNS WANTED—BEGINNING JULY 1, 1950; 104 bed hospital*÷; rotating service; approved by AMA and ACS; graduate of A school only; salary $75 per month, plus full maintenance. Evangelical Deaconess Hospital, 1229 Pearl Road, Cleveland 9, Ohio. D

WANTED—RESIDENT PHYSICIAN; 60 BEDS, GENeral hospital; West Virginia; ACS approved; requirements: 1 year internship, graduation class A medical school; remuneration $200 per month and full maintenance. Box 9315 D, % AMA. D

POSITIONS STILL AVAILABLE—FOR INTERN AND general resident; AMA and ACS approved; very active service; applications limited to graduates of US medical schools; positions open July 1st. Apply: Superintendent, Mercy Hospital,* Cedar Rapids, Iowa. D

WANTED—RESIDENTS FOR GENERAL PRACTICE training; 400 bed hospital*÷; AMA approved for internship and major specialties; well balanced teaching program. Write: Superintendent, Wesley Hospital, Wichita 6, Kansas. D

WANTED—RESIDENT AND ASSISTANT RESIDENT; for rotating mixed service; beginning July 1, 1950; 104 bed hospital*÷; AMA and ACS approved; graduating of A schools only; salary $75 per month. Evangelical Deaconess Hospital, 4229 Pearl Road, Cleveland 9, Ohio. D

WANTED—RESIDENTS IN GENERAL PRACTICE; appointments for 1 year, beginning July 1, 1950; 265 bed hospital; averaging 100 free patients; also daily clinics; salary $50 per month and meals; quarters available for single residents; applicant must be graduate approved medical school and qualified for license in Nevada. Apply: Administrator, Washoe Medical Center, Reno, Nevada. D

ANESTHESIOLOGY RESIDENCIES—AT UNIVERsity of Minnesota, Minneapolis Veterans Administration Hospital and affiliated hospitals; enlarged clinical services and basic science courses make an opening available each month. Address: Hugh Y. Reid, M.D., Director of Anesthesiology, University of Minnesota Hospital, Minneapolis, Minnesota. D

RESIDENTS—FOR BUSY GENERAL HOSPITAL; IN suburban area of Chicago; 325 bed; 10,075 admissions in 1949; approved by AMA for general practice; salary $175 per month; complete maintenance and apartments available; salary increases at regular intervals to supporting to diplomate. Medical Director, Mac Neal Memorial Hospital,* Berwyn, Illinois. P. J. McCarthy, Administrator. D

RADIOLOGY RESIDENCY AVAILABLE—325 BED general hospital*÷; approved by AMA and American Board of Radiology. Apply: Mount Carmel Mercy Hospital, Detroit 35, Michigan. D

WANTED—TWO RESIDENTS IN PATHOLOGY, RESident in otolaryngology and physician with 2 years' training in medicine; for residency in cytology; university medical center. Box 9309 D, % AMA. Medical Bureau, Palmolive Building, Chicago. D

APPROVED RESIDENCIES—AVAILABLE AT GLENN Dale Sanatorium,÷ the tuberculosis sanatorium of the District of Columbia; salary $1800 per annum; 1 year internship required. Address inquiries: Superintendent, Glenn Dale Sanatorium, Glenn Dale, Maryland. D

RESIDENTS—THREE WANTED BEGINNING JULY 1st; $150 plus maintenance. Ohio Valley Hospital, Steubenville, Ohio. D

WANTED—RESIDENT IN OCCUPATIONAL MEDIcine; duties consist of serving 50 several industrial plants, university school of medicine and public health and general hospital; upon completion of training will receive Master's Degree in public health; comprehensive program qualifying one for medical directorship, large department; Plaza 1317, Harold Lorsch, Medical Bureau, Palmolive Building, Chicago. D

(Continued on next page)

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(Continued from preceding page)

RESIDENCIES WANTED

WANTED—APPROVED GYN OR OB-GYN RESIdency; July or after; age 34; DNB; Massachusetts license; 27 months toward Boards; mostly obstetrics; Boston; need gynecology; preceptorship considered. Box 9492, % AMA.

LOCATIONS WANTED

GENERAL PRACTITIONER—WISHES BUY HOMEoffice combined or separate; New York state; or partnership with physician wanting retire; any sound investment medical field; minimum community 5000. Box 9498 E. % AMA.

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PARTNERSHIP SOUGHT—WITH COMPETENT INdividual or group who will teach me a specialty; OB, surgery or urology; desire Mid-West; young, eager, sincere; 1947 graduate A school. Box 9537, F. % AMA.

BUSINESSMAN—32; UNIVERSITY GRAD; WISHES to affiliate with individuals or group desiring to be free of administrative detail. Will invest. Box 9197 F. % AMA.

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YOUNG DOCTOR WANTED—TO TAKE OVER GENeral practice for 3 months; starting June 10, 1950; nice residential town of 5000 population; in western Pennsylvania; write details. Box 9509 G. % AMA.

DERMATOLOGY—WITH AT LEAST ONE YEAR'S training in dermatology; 4 to 6 weeks during June and July; east Tennessee; salary open. Box 9513 G. % AMA.

WANTED—PHYSICIAN; FOR GENERAL PRACTICE locum tenens; in northeast Texas community; for a month period, June or July; automobile not necessary; salary open to include furnished house. Box 9452 G. % AMA.

WANTED—LOCUM TENEN; FOR ONE YEAR BEginning July 1, 1950; large general practice in Ohio; car and good salary available for right man; regular physician plans additional post-graduate training. Box 9386 G. % AMA.

LOCUM TENENS WORK WANTED

PHYSICIAN—27, UNMARRIED; GRADE A SCHOOL; rotating internship; pathology residency; diplomate of National Board; desires locum tenens, assistantship or other position for 1 year; excellent references; stipend desired $10,000; available July 1st. Box 9408 H. % AMA.

SITUATIONS WANTED

OPHTHALMOLOGIST—BOARD ELIGIBLE; DESIRES association or assistantship; married; 37; completing 3 years training, basic course and university hospital, December, 1950; Ohio, California and Michigan license. Box 9544 I. % AMA.

OPHTHALMOLOGIST — AVAILABLE SEPTEMBER, 1950; 28; married; Protestant; completing 2 year residency and basic course; previous Army EENT for 2 years; desire association with individual or group. Box 9542 I. % AMA.

OBSTETRICIAN AND GYNECOLOGIST—38; 2ND part Boards, May, experienced all types pathological obstetrics and gynecology, desires association with ethical group or specialist; A school; Michigan, Illinois, California licenses; excellent references. Box 9540 I. % AMA.

GENERAL PRACTITIONER—RECENT GRADUATE; completing rotating internship; interested in surgery and obstetrics; seeks position with group or clinic; in Middle West; will consider other offers. Box 9539 I. % AMA.

RESIDENCY OR PRECEPTORSHIP—IN EYE OR EENT; to complete training; mature; single; 12 months basic study EENT and 12 residency ENT; licentiate National Board medical examiners. Box 9538 I. % AMA.

PSYCHIATRIST—EXPERIENCED ELECTRIC SHOCK and insulin coma therapies; institutional administration; mental hygiene clinic; substantial background; desire change. Box 9535 I. % AMA.

PATHOLOGIST—31; BOARD ELIGIBLE; 1 YEAR teaching experience, instructorship; desires faculty appointment or position with approved hospital. Box 9536 I. % AMA.

UROLOGIST—CERTIFIED; WISHES LOCATION with group or for single practice; no objection to partnership; Mid-West preferred; member AUA; over 15 years experience including AUS. Box 9525 I. % AMA.

TWO YOUNG RADIOLOGISTS—QUALIFIED IN diagnosis and therapy; will equip or buy a private radiologic practice; in pleasant middle western location; will consider large group practice. Box 9506 I. % AMA.

GENERAL SURGEON—FOR FLORIDA HOSPITAL, factory or plantation; will also consider general work; salary; Florida license; married; good health; Tulane graduate; NY Polyclinic; 10 years general practice; recent 5 years surgery in 500 bed hospital; excellent training; still employed North; give details 1st letter. Box 9019 I. % AMA.

SURGEON—36; EXCELLENT INTERNSHIP, RESIdency; Board eligible general, thoracic surgery; veteran; full-time assistant professor; desires location private practice, association; immediate income secondary to ultimate opportunity. Box 9256 I. % AMA.

OTOLARYNGOLOGIST—KNOWLEDGE OF OPHTHALmology; Board eligible; completing 2 years residency EENT; veteran; age 38; desires position; assistant, group, private practice; small town considered. Box 9255 I. % AMA.

PATHOLOGIST — CERTIFIED IN PATHOLOGIC anatomy and clinical pathology; age 40; excellent background, experience and reputation; outline particulars in 1st letter. Box 9139 I. % AMA.

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J. Clin. Endocrin. 9,691 (1949). *Postgraduate Medicine* 6,419 (1949). *Current Medical Digest*, Dec., 1949. *Trans. of Conference on Metabolic Aspects of Convalescence*, 17th Meeting, Josiah Macy, Jr., Foundation, New York, Mar. 29-30, 1948.

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Books Received

Books received by The Journal are acknowledged in this column. Selections will be made for more extensive review in the interests of The Journal readers as space permits. Books listed in this department are not available for lending. Information concerning them will be supplied on request.

Pocken und Pockenschutzimpfung: Ein Leitfaden für Amtsärzte, Impfärzte und Studierende der Medizin. Von Prof. Dr. M. Kaiser, Vorstand des Hygienischen Universitäts-Institutes und Leiter der Bundesstaatlichen Impfstoffgewinnungsanstalt in Wien. Paper. $3.80. Pp. 207, with 45 illustrations. Springer-Verlag, Mölkerbastei 5, Vienna 1, 1949.

The Practice of Urology. By Harry C. Rolnick, M.D., Professor and Chairman of the Department of Urology, Chicago Medical School, Chicago. Volumes I & II. Cloth. $24. Pp. 616; 617-1245, with 1350 illustrations. J. B. Lippincott Company, 227-231 S. 6th St., Philadelphia 5; Aldine House, 10-13 Bedford St., London, W. C. 2; 2083 Guy St., Montreal, 1949.

Endo-Cavitary Aspiration (Monaldi Operation): New Developments in Technique, Instruments and Apparatus. By Dr. Abdel-Raouf Hassan, Medical Superintendent, Fouad Sanatorium-Almaza & Ain-Chams Sanatorium. Paper. Pp. 42, with illustrations. Association of Authorship, Translation & Publication Press, Cairo, [n.d.].

Eighth Report to Congress on Assistance to Greece and Turkey for the Period Ended June 30, 1949. Department of State Publication 3674, Economic Cooperation Series 22. Division of Publications, Office of Public Affairs. Paper. 20 cents. Pp. 41, with illustrations. Supt. of Doc., Govern. Print. Off., Washington 25, D. C., 1949.

Awakening into Consciousness of Subconscious Collective Symbolism as a Therapeutic Procedure. By Ernest Harms. Child Care Monographs No. 2. [From The Journal of Child Psychiatry.] Paper. $1. Pp. 31, with 21 illustrations. Child Care Publications, 30 West 58th St., New York 19, 1949.

Adaptation. Edited by John Romano, M.D., Professor of Psychiatry, University of Rochester School of Medicine and Dentistry, Rochester, New York. Cloth. $2. Pp. 113. Cornell University Press, 124 Roberts Place, Ithaca, New York; Oxford University Press, Amen House, Warwick Sq., London, E. C. 4, 1949.

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PATHOLOGIST — WITH EXTENSIVE EXPERIENCE all phases laboratory work; desires to change to small or medium sized town; comprehensive description in 1st letter appreciated; consideration basis preferred. Box 9150 I, % AMA.

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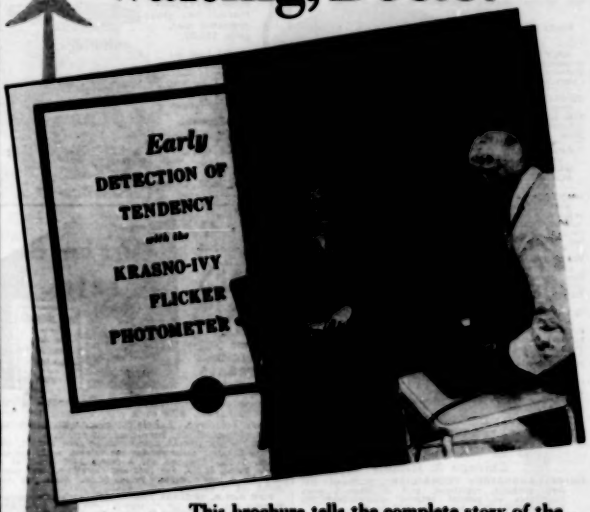

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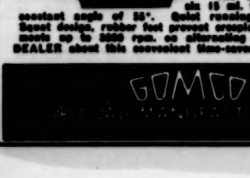

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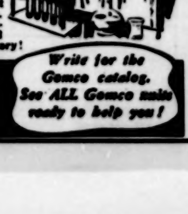

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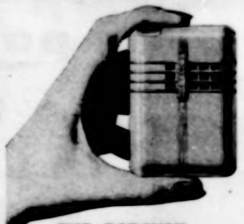

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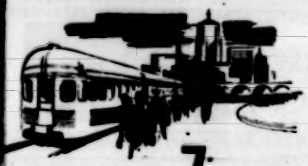

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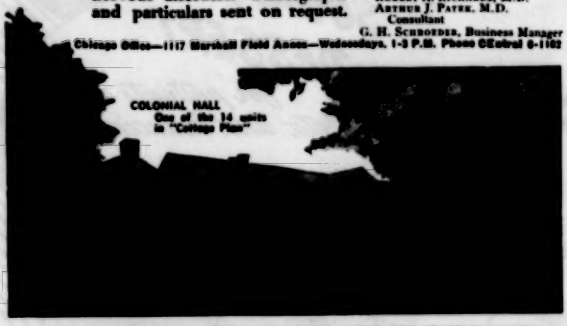

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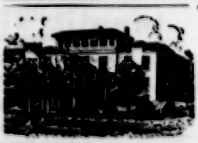

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